+ INSTALLATION INSTRUCTIONS

SINCE 1921
windhager
HEAT WITH VISION

FIREWIN

PELLET BOILER

EN

03/2018 092125/08

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The Clean Air Act 1993 and Smoke Control Areas

Under the Clean Air Act local authorities may declare the whole or part of the district of the authority to be a smoke control area. It is an offence to emit smoke from a chimney of a building, from a furnace or from any fixed boiler if located in a designated smoke control area. It is also an offence to acquire an „unauthorised fuel" for use within a smoke control area unless it is used in an „exempt" appliance („exempted" from the controls which generally apply in the smoke control area).

The Secretary of State for Environment, Food and Rural Affairs has powers under the Act to authorise smokeless fuels or exempt appliances for use in smoke control areas in England. In Scotland and Wales this power rests with Ministers in the devolved administrations for those countries. Separate legislation, the Clean Air (Northern Ireland) Order 1981, applies in Northern Ireland. Therefore it is a requirement that fuels burnt or obtained for use in smoke control areas have been „authorised" in Regulations and that appliances used to burn solid fuel in those areas (other than „authorised" fuels) have been exempted by an Order made and signed by the Secretary of State or Minister in the devolved administrations.

Further information on the requirements of the Clean Air Act can be found here: http://smokecontrol.defra.gov.uk/ Your local authority is responsible for implementing the Clean Air Act 1993 including designation and supervision of smoke control areas and you can contact them for details of Clean Air Act requirements.

The Windhager FireWIN pellet boilers have been recommended as suitable for use in smoke control areas when burning wood pellets.

1. Important initial information for the Technician

1.1 Safety precautions

The boiler and related accessories are state of the art and meet all applicable safety regulations. Your boiler and all accessories operate using 230 V AC electric current. Improper installation or repair can pose the danger of life-threatening electric shock. Installation may be performed only by appropriately qualified technicians.

Caution symbols

Please take careful note of the following symbols in these Installation instructions.

Attention!

Ignoring the warnings identified can lead to personal injury.

Information!

Ignoring the warnings identified can lead to malfunction of, or damage to the boiler or heating system.

Note!

The blocks of text highlighted provide **information and tips** for operation.

1.2 Application options

FireWIN is designed for installation in the living area and is configured as a fully featured central heating system. This means no second heat generator is required. If desired, however, FireWIN can be combined with alternative heat generators (e.g. solar or solid fuel boiler). Refer to the hydraulic systems for details about this.

The necessary hydraulic components for a heating circuit as well as hot water preparation are integrated in FireWIN (see hydraulic equipment). This means there is no longer any need for a boiler room or equipment room and that FireWIN is ideally suited for use as a central heating system in houses without a basement or when central heating is being installed in a building for the first time as part of a renovation project.

Attention!

The configuration of the entire system must comply with the requirements of regional legislation, applicable regulations, standards and guidelines.

1.3 Flue

A properly dimensioned flue is required for optimal functioning of the combustion system. Measurement of the dimensions must follow EN 13384-1. See the Technical data section for values required for this calculation.

Please note that in the lower performance range, flue gases may be below 90 °C. Therefore, thermally-insulated flues meeting thermal transmittance coefficient Group I requirements according to DIN 18160 T1 or other appropriate, officially approved moisture-resistant exhaust systems may be connected to the hearths.

The flue gas system must display at least the following classification:

Temperature class: T400 = nominal operating temperature 400 °C
Soot fire resistance class: G = flue gas system with soot fire resistance
Corrosion resistance class: 2 = suitable for unprocessed wood fuels

Information!

Frequently, overhaul of existing systems involves oversized flue cross-sections or flues not designed for lowtemperature operation. We suggest an evaluation by the local building inspector before installing the boiler system. In this way appropriate modifications can be made to the flue before system installation (see technical data for flue calculation values).

Attention!

Energy-saving intake regulators or explosion flaps are not allowed to be installed in the living area. Comply with the statutory regulations and directives.

1.4 Fuel storage

1.4.1 Automated pellet supply

The pellets can be stored in bulk in a storage room, sheet steel tank, fabric tank or a buried tank. See the separate "Pellet storage room" planning documents for planning information about this pellet storage.

The requirements for pellet storage are regulated differently in different countries. (Austria: ÖNORM M7137, Germany: VDI 3464, Switzerland: VKF / AEAI Fire Protection Explanation Pellet burner. The national Regulations (building regulations, combustion regulations, etc.) must be observed.

The pellets must be stored in a dry place in order to achieve trouble-free operation with optimum combustion and at maximum efficiency.

Information!

The pellets must be transported carefully into and out of the storage room so as to maintain good pellet quality.

The FireWIN can be operated with 1 probe (sheet steel tank solo probe), 2–3 probes or with up to 8 probes.

The maximum transport length or height for a pellet feed system is **25 m horizontally with a 6 m vertical difference** between the highest and lowest levels of the hose. These maximum values require a stable electricity supply (min. 220 VAC under load).

1.4.2 Manual pellet supply

Pellets in bags must be stored in a dry place.
Please observe the local regulations on storing fuel.

2. For the Installer

2.1 Delivery, packaging

Hydraulic equipment	FireWIN type/order no.	
without heating fittings	FW_ 090	FW_ 120
with energy-saving circulation pump, expansion tank 12 l, motorised mixing valve, safety valve and pressure gauge	FW_ 090 UAM	FW_ 120 UAM
with energy-saving circulation pump, hot water tank feed pump with gravity brake, expansion tank 12 l, motorised mixing valve, safety valve, pressure gauge and supplied gravity brake for heating circuit	FW_ 090 UAML	FW_ 120 UAML

2.1.1 FireWIN Klassik

The boiler is supplied on a wooden pallet covered with a plastic sack. The cladding parts are in a separate cardboard box. Cleaning tools are packed in the combustion chamber and the ash pan.

2.1.2 FireWIN Premium and Exklusiv

The boiler is supplied on a wooden pallet covered with a plastic sack. The cladding parts are in a separate cardboard box. Cleaning tools are packed in the combustion chamber and the ash pan. In addition, the suction turbine (fully automated pellet feed) is packed in a cardboard box.

2.1.3 Optional accessories

According to price list, fitted on or in boiler or enclosed as per order.

2.2 System

2.2.1 Area of use

For heating buildings acc. to EN 12831.
The boilers are designed and approved as heat generators for hot water heating systems with a permissible flow temperatures of up to 90°C. They may be installed only in sealed systems. The maximum flow temperature is factory-set at 75°C.

2.2.2 Heating fittings

Safety valve 2.5 bar (upplied as standard with FireWIN versions UAM and UAML):

The safety valve is type-tested (code letter "H"). Only safety valves of this kind are allowed to be used. The client must provide a safety valve in FireWIN versions without heating fittings. The drainage line from the safety valve must be provided by the client. The line can be routed backwards on the left side between the pellet reservoir container and the left side panel – Fig. 2. Break out the cut-out on the rear wall.

Please note:
– Have the function checked by an expert on start-up and at least once a year.

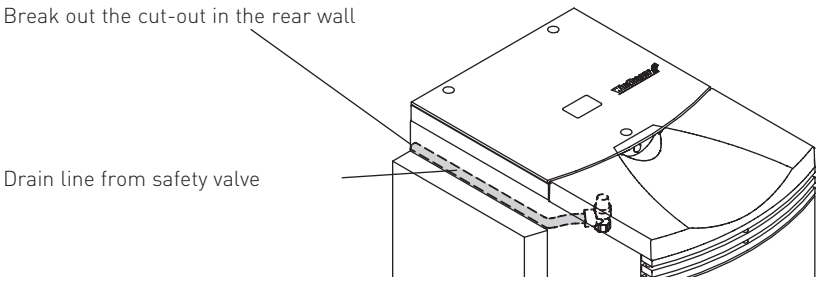


Fig. 2 Drain line from safety valve

Expansion tank (upplied as standard with FireWIN versions UAM and UAML):

of the expansion tank depends of the parameters of the heating system and must be calculated on a case-by-case basis. The flat pressure expansion tank installed in FireWIN versions is designed for a feed pressure of 1.0 bar and a content of 12 l. An additional expansion tank must be provided by the client if this volume is not sufficient.

Pressure gauge (in FireWIN versions UAM and UAML installed at the front behind the cladding door as standard):

The system pressure should be at least 1 bar. Check the system pressure, more frequently at first and then twice a year later on.

Bleeder valve

Installed as standard in all boilers under the front cover. In addition, the variants UAM and UAML also have a manual ventilation function behind the left side panel at the feed above the circulation pump. In boilers without fittings, ventilation is to be provided on the feed if the feed is routed downwards.

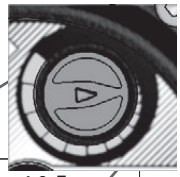
A low-water cut-off:

A low-water cut-off is not required for systems providing up to 300 kW nominal thermal output, if it can be assured that excess heating will not result from a lack of water in the system.
The boilers are equipped with an electronic temperature regulator and a type-tested safety temperature limiter. If the boiler is above the radiators, then a low-water cut-off must be installed.

Circulation pump: After 2013, new circulation pumps in Europe must meet a minimum level of energy efficiency. Note the Energy Efficiency Index (EEI).

Supplied as standard with FireWIN versions UAM and UAML:

Heating circuit pump:
High-efficiency circulation pump
Type: HEP 15–4.0 E; EEI ≤ 20
Installation dimension: 130 mm



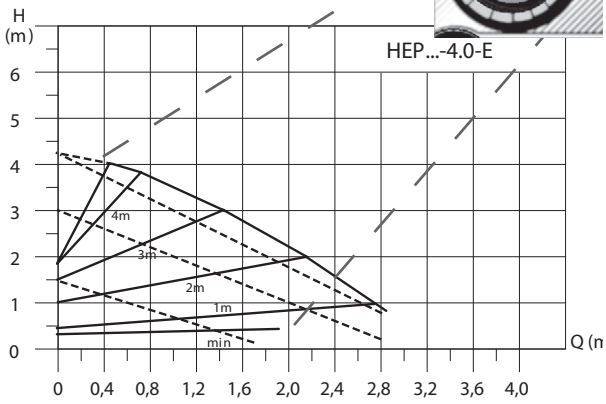


Diagramm 1 Pump characteristic curve HEP 15–4.0 E

Hot water loading pump:
Type: HUP 15–4.0 U
Installation dimension: 130 mm

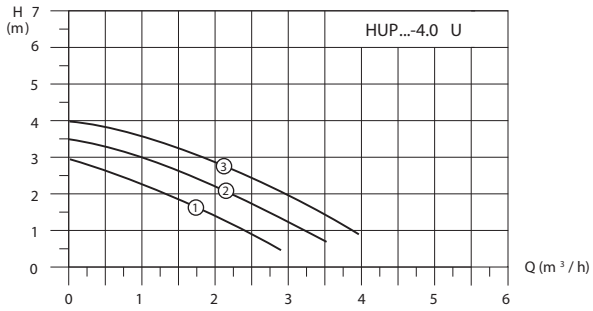


Diagramm 2 Pump characteristic curve HUP 15–4.0 U

The circulation pump shaft is lubricated by water, therefore the pump is never allowed to run without water.

2.2.3 Heating circuits

A motorised mixing valve is always required for the FireWIN in order to protect the boiler and one must be fitted in each heating circuit. A feed contact thermostat (FK-001) must be installed for underfloor circuits. If required, the hydraulic fittings can be integrated in the boiler for 1 mixed heating circuit (UAM or UAML version).

2.2.4 Domestic water (hot water tank)

If FireWIN is used for loading a hot water tank, a gravity brake must be installed in the heating return. This is provided as standard with FireWIN UAML.

2.2.5 Return temperature

The return flow temperature increase installed as standard means that FireWIN can be operated with a return temperature down to min. 20 °C. No external return flow temperature increase is required.

2.2.6 Accumulator tank

In principle a pellet boiler system does not need a buffer tank. A guaranteed minimum heat consumption is required, e.g. fit a consumer circuit that cannot be blocked off or do not fit thermostat valves on all radiators.

Exceptions:

If the total heating requirements of the building according to the ÖNORM M 7500 or EN 12831 calculation are less than 50 % of the boiler's nominal output, we would recommend integrating a buffer tank in the system. This means that the FireWIN loads the buffer tank with a return hold-up group. (Hydraulic system SYS 402, please contact Windhager for planning advice)

Boiler installation criteria:
- controlled residential area ventilation is an advantage if the boiler is being installed in a small space or if building heat loads are low
- heat shield (accessory: FIRE 023) needed
- the room temperature in the installation room is too high
- FireWIN operating times are set by the system control

2.2.7 Heating water

Please note!

The chemical composition of the heating water must comply with the requirements of regional legislation, regulations, guidelines and standards, e.g. ÖNORM H 5195, VDI 2035, SWKI BT 102-01.

Applicable for Austria (excerpt from ÖNORM H 5195):

a) The chemical composition of the heating water must meet the specifications of ÖNORM H 5195 or VDI 2035. According to ÖNORM M 5195 (issue 2010), the condition of the heating water must be checked every 2 years by a heating technician in order to avoid corrosion and sediment accumulation in the heating system.

b) The pipe lines and heating appliances should be thoroughly flushed through before the boiler is connected.

c) To protect the boiler from contamination from the heating system, installation of a dirt trap is required in old or existing systems with maintenance cocks installed in the return line.

d) If oxygen diffusion or sludge build-up cannot be prevented, the system must be segregated by means of a heat exchanger.

e) If using antifreeze, the solution must be made up of **at least 25 % antifreeze**; otherwise, the boiler cannot be guaranteed to be protected against corrosion.

2.2.8 Water-side resistance (pressure loss)

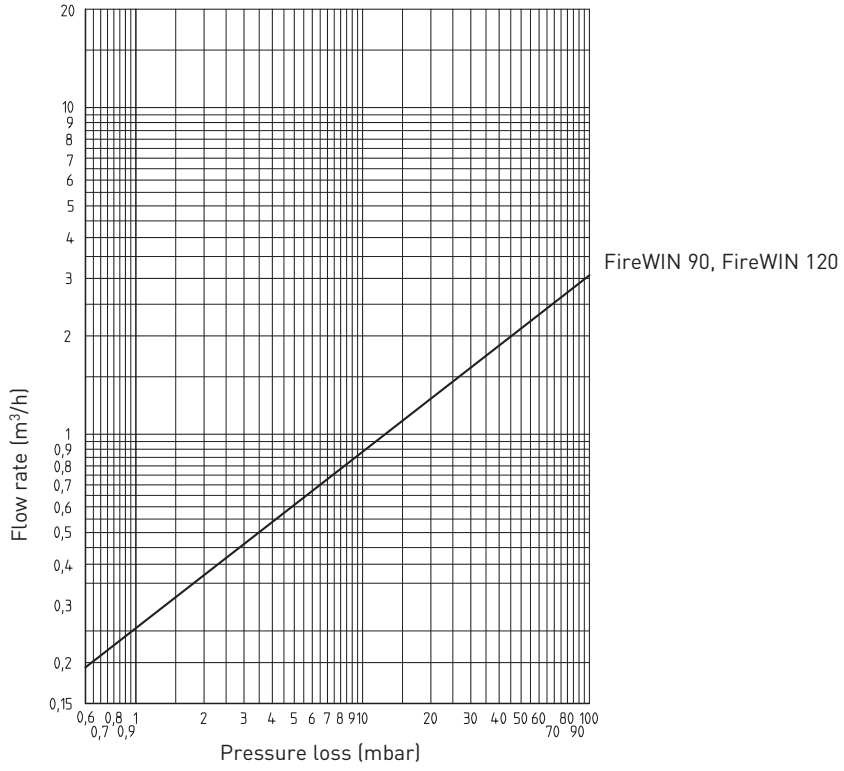


Diagramm 3 water-side resistance – FireWIN

2.3 Combustion air

An adequate supply of combustion air is absolutely essential. The combustion air must be free from pollutants (gases, vapours and dusts), otherwise malfunctions and increased wear (e.g. corrosion) may occur.

Information!

Malfunctions or complaints occasioned by inadequate combustion air will not be covered by the guarantee!

There are various possible ways of supplying the combustion air:

- Operating with room air
  (Combustion air supply from the installation room or adjacent room)
- Operating independently of the room air
  (Combustion air supply from ventilation draught in the chimney)

Note!

There may be an induction noise from the air supply induction point (air opening in the device), depending on the modulation. The noise can be transferred outside or into an adjacent room by relocating the air supply induction point.

Negative pressures in the installation/induction room with point 2.3.1 **Operating with room air** are not permitted. The function and safety of the FireWIN is affected when combining with room ventilation systems and combustion air supply from the installation room or adjacent room. Room ventilation systems must switch off automatically when the negative pressure in the unit is more than 4 Pa below the pressure in the installation room or adjacent room. Special ventilation systems are available for controlled living area ventilation in combination with solid fuel systems – refer to information provided by the manufacturers of ventilation systems.

If ventilation systems (e.g. extractor hoods or pneumatic pumping systems, etc.) are used, we recommend routing the combustion air according to point 2.3.2 **Operating independently of the room air**. This means it is possible to decouple the combustion air from the air conditions in the installation room to a large extent.

In addition, the device is equipped as standard with a pressure monitoring device in the fire box in order to guarantee safe operation of the device.

2.3.1 Operating with room air
(Combustion air supply from the installation room or adjacent room)

Always ensure there is a sufficient combustion air supply (no windows and doors that provide a complete air seal).

Please note!

The configuration of the entire system must comply with the requirements of regional legislation, applicable regulations, standards and guidelines.

Combustion air supply from a well ventilated adjacent room via an air intake pipe:

The combustion air is carried along an air intake pipe from a well ventilated adjacent room (e.g. stairwell) to the FireWIN. This avoids the induction noise in the installation room during operation. The accessory FIRE 024 is also required for this variant. The air supply is carried in commercially available plastic pipes of diameter 75 mm. The maximum induction length is 9 m, each 90° bend reduces the length by 1 m.

Combustion air supply directly from the installation room:

The combustion air is drawn directly by the device from the installation room, therefore the installation room has to be adequately ventilated.

Applicable for Austria (excerpt from ÖNORM H 5170):

The area of the free minimum cross-section must be 2.5 cm² per kW of the boiler's nominal total output[1].

The opening to the outdoors for combustion air should be designed as follows:
– the flow of air must not be restricted in any way by the weather (e.g. snow, leaves),
– the free cross-section area remains the same when taking the cover grille, discs etc. into consideration.

Applicable for Germany (excerpt from the Firing Ordinance, September 2007):

For hearths with a direct supply of combustion air from the installation room with a nominal output of not more than 50 kW in total that are dependent on surrounding air, supply of combustion air will be sufficient providing that every installation rooms has an opening that vents to the atmosphere with an unobstructed cross-section of at least 150 cm² or two openings of 75 cm² each, or pipes leading outside with a technically equivalent cross-section.

2.3.2 Operating independently of the room air
(Combustion air supply from ventilation draught in the chimney)

This variant is to be preferred over operating with room air, because it ensures that there will always be sufficient combustion air and that the induction noise during operation will be transferred to the outside. The accessory FIRE 024 is required for this operation.

The combustion air is drawn in through an unobstructed ventilation draught in the chimney – Fig. 3. The openings for the intake air and the flue gas are only allowed to be located with a square with a 500 mm side length. This ensures that the same air pressure always prevails in the openings (even in very windy conditions).
Only flue gas systems that have been tested and approved for solid fuel applications may be used.

The lengths stated are only a guideline and should not take the place of an actual flue calculation!

pellet boiler	FireWIN 90/120
Max. induction length (Air intake)	9 m, each 90° bend reduces the length by 1 m
Air intake cross-section	min Ø 75 mm (or technically equivalent cross-section)
Combustion air line (Air intake)	DN 80 Seal integrity: min. 0.1 m3/h at 0.1 mbar ; temperature resistance: 95 °C (standard plastic discharge lines with correctly fitted seal)
Connecting piece (Flue gases)	Max. length 3 m, only use lines with minimum classification according to EN 1851-1: **T200 H1 D V2 L(xxxx) G(xx)**
Shaft head	Tested wind protection fixture or design in accordance with DIN V 18160-1 – Fig. 3.
Air/flue gas system (Sketch Fig. 3)	Configuration as equal-pressure system (induction opening for air intake and opening for flue gas discharge are within a square with a max. edge length of 0.5 m) Required accreditations: for solid fuels; moisture-resistant
Swinging draught flap, explosion flap	Energy-saving intake regulators or explosion flaps are not allowed to be installed in the living area. Comply with the statutory regulations and directives.

The connection for the connecting piece on the chimney should be designed such that the condensate is prevented from flowing from the chimney back into the connecting piece.

Please note for Germany!

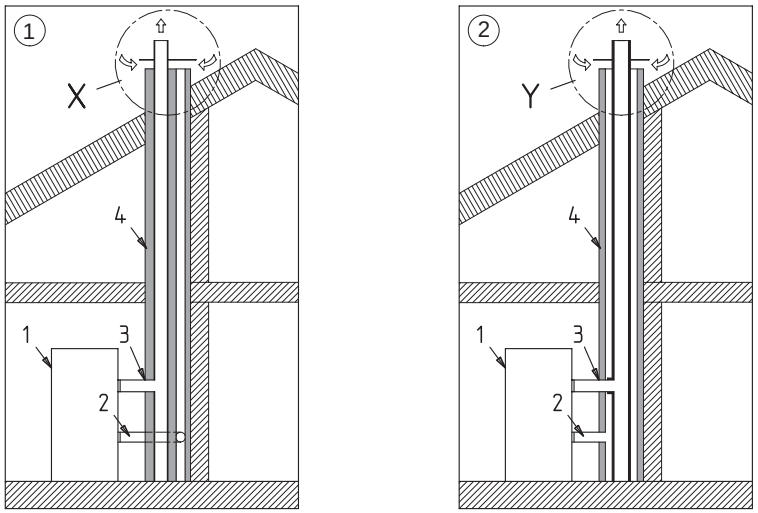
Only chimneys with general technical approval, classified as W3G according to DIN V 18160 Part 1 may be used.

Hearth with flue gas blower to DIN 18897-1 (type FC_{42x}) for connection to a pressure-equal air/flue gas system

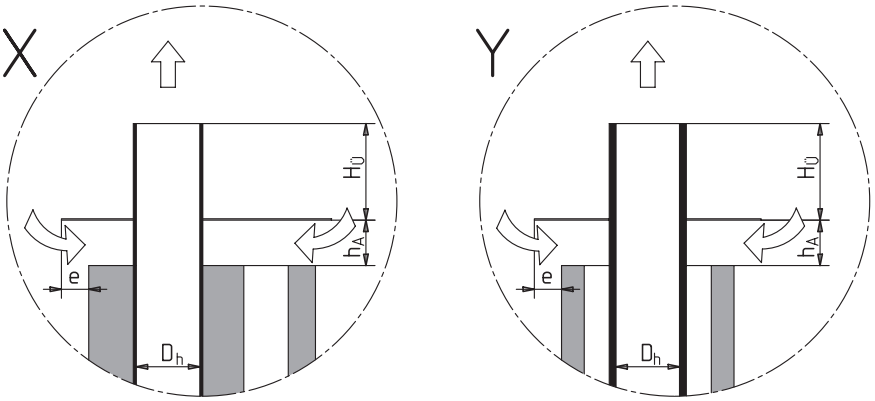
Examples of models:

Air/flue system with parallel supply air/flue layout

Air/flue system with concentric supply air/flue layout



1.....Pellet boiler
2.....Combustion air line (intake air)
3.....Connecting piece (flue gas)
4.....Air/flue gas system



Detail X, Y
Opening (shaft head in accordance with DIN V 18160-1)

D_h.....Flue gas diameter
$H_Ü$.....Opening clearance
h_A.....Spacing of dispersion plate
e.....Protrusion of dispersion plate

5.....Flue gas
6.....Combustion air (intake air)

Requirements:

$H_Ü \geqq 2 \times D_h$
h_A = min. 10 cm
e = 0 cm to 8 cm

Requirements:

$H_Ü \geqq D_h$
h_A = min. 10 cm
e = 0 cm to 8 cm

Fig. 3 Sketch of ventilation draught in flue

Important information!

Only approved air/flue gas systems may be used. With concentric supply air/flue layout (picture ②) the leak tightness of the system must be ensured as otherwise flue gases can be sucked into the supply air.

The connection for the connecting piece on the chimney should be designed such that the condensate is prevented from flowing from the chimney back into the connecting piece.

2.4 Taking in

FireWIN is delivered without cladding (door, cover, side panels) on a pallet, without wood partitions. The cladding parts are in a separate cardboard box. The taking-in weight is less than 200 kg, the taking-in width is 55 cm.

2.5 Installation

2.5.1 Installation room

Basically, any room with normal air humidity and living space temperature in the living area is suitable for installation, providing it has a flue connection with an adequate draught (see technical data for flue requirements) and satisfies the statutory regulations and directives.

The installation room should not be too small otherwise the room could be overheated by the heat radiation. The recommended rule of thumb is: The installation room should account for at least 15% of the area to be heated.

Note!

Due to the operating and flame noises, we do not recommend installing the device in bedrooms or quiet rooms.

- The minimum service clearances from flammable materials and for connections, cleaning and maintenance must be complied with – see point 2.6 Minimum service clearances.
- FireWIN must be placed directly on a non-flammable base plate (e.g. floor plate accessory).
- Sufficient ventilation of the set-up area must be assured see section 2.3 Verbrennungsluft combustion air.
- The boiler may only be installed in a dry location.
- The boiler may not be installed in rooms that are very dusty or humid.

Permissible limit values: Air humidity: 85 % at 25°C room temperature (noncondensing)
Room temperature +2 to 40°C

2.5.2 Heat radiation

The viewing panel of the FireWIN means it is inevitable that heat will be radiated into the installation room. The distribution of heat between air and water heating is approx. 15 : 85 % without the heat shield and approx. 9 : 91 % with the heat shield (accessory FIRE 023).

The following should be noted:

– Heating domestic water in summer:

Heat radiation always heats up the installation room when domestic water is being heated. Although the amount of radiated heat can be significantly reduced by using the patented heat shield (accessory FIRE 023), it can never be totally prevented.
This means it may not be possible to rule out overheating the installation room on hot days and, above all, during the summer months.

To remedy this, we recommend heating domestic water using an alternative system such as solar.

– Heating surfaces/radiators in the installation room:

The heat radiation from FireWIN has been reduced to the minimum necessary, therefore a corresponding heating surface or radiator should also be installed in the installation room. Heating surfaces in the installation room are essential when the system is combined with alternative heat generators (solar, accumulator tank or solid fuel boiler) – Fig. 4.

We recommend using thermostat heads in the installation room.

– Minimum room size:
FireWIN very rapidly provides the necessary amount of heat at very low building heat demands or in autumn/spring. Despite the fact that the boiler quickly reduces its output to the minimum level or actually switches itself off entirely, there will nevertheless be a corresponding amount of heat radiation into the installation room.
This means it may not be possible to rule out overheating the installation room on hot days and, above all, during the autumn/spring.

As a remedy, we recommend having an installation room with a minimum size of approx. 15 % of the entire area to be heated) – Fig. 4.

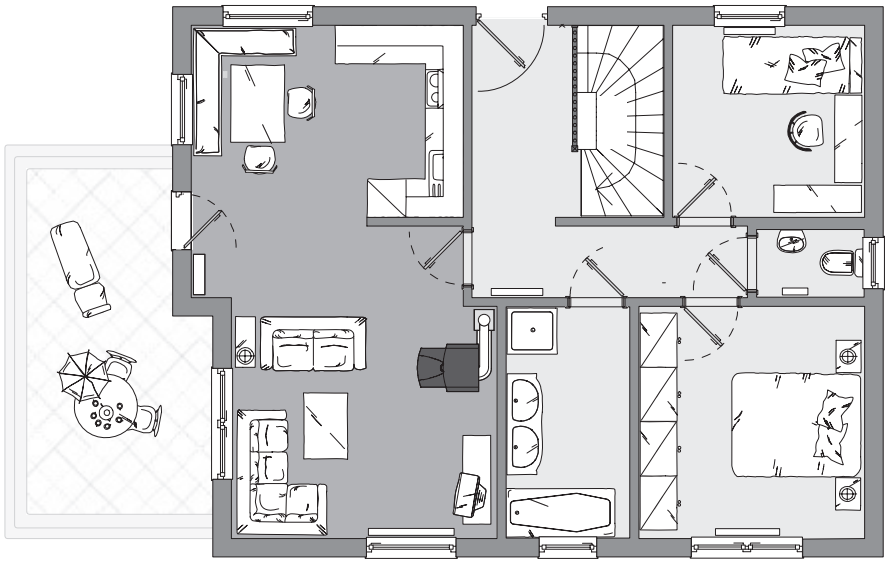


Fig. 4 FireWIN in an installation room (more than approx. 15 % of the entire area to be heated)

2.6 Minimum service clearances for fire protection, cleaning and maintenance

The following minimum service clearances from flammable materials and for connections, cleaning and maintenance must be complied with.

Attention!

The configuration of the entire system must comply with technical fire protection requirements in accordance with the applicable regulations, standards and guidelines.

2.6.1 Masonry feed-throughs for the exhaust pipe

Examples of masonry feed-throughs tested by the IBS – Institut für Brandschutztechnik und Sicherheitsforschung (Institute for Fire Protection Technology and Safety Research)

Multi-layer flammable wall **Multi-layer flammable wall** **Non-flammable wall**

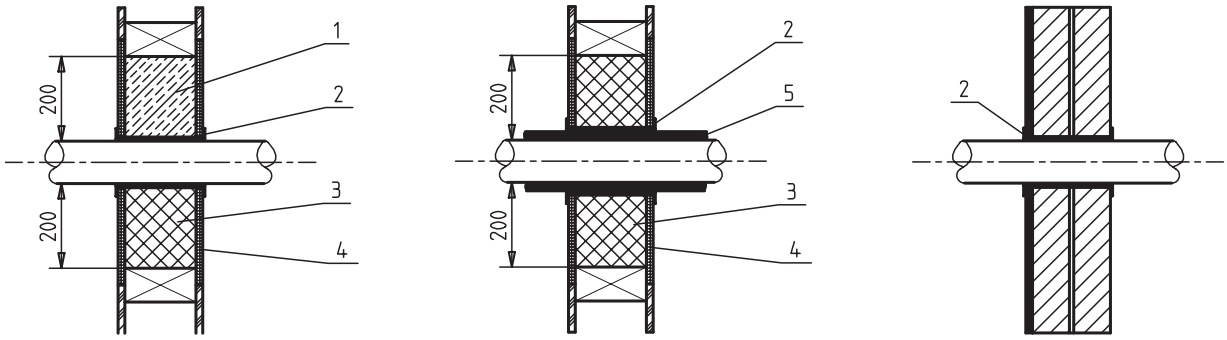


Fig. 5 Tested masonry feed-throughs for exhaust pipe

Multi-layer flammable wall

There must be a gap of 200 mm from flammable components all round the exhaust pipe.

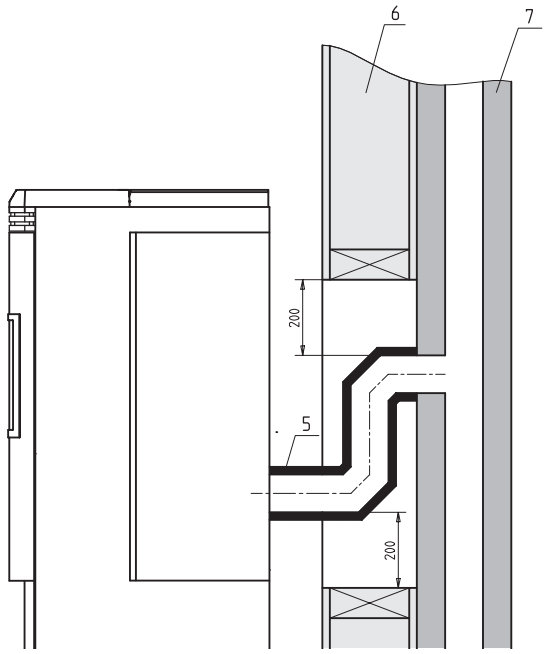


Fig. 6 Tested masonry feed-throughs for exhaust pipe

All dimensions in mm:

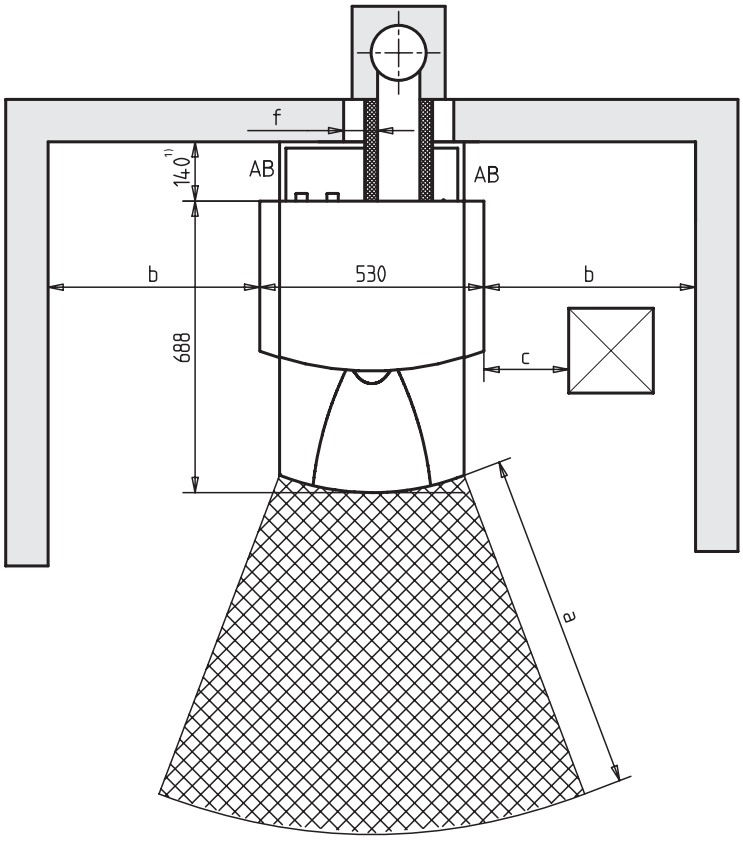
1..... Concrete fill
2..... Lining pipe
3..... Cavity fill with non-flammable material (e.g. rock wool)
4..... Non-flammable cover
5..... Exhaust pipe insulation 20 mm
techn. data of insulation:
– Mineral wool insulation
– Melting point: > 1000 °C
– Thermal conductivity: < 0.04 W/mK
– Minimum thickness: 20 mm
6..... Multi-layer flammable wall
7..... Flue

2.6.2 Minimum service clearances with flue gas tube connection straight back

Dimension	Clearance	Description
a	800 mm	Minimum clearance in radiation area (front window) from flammable materials
b	600 mm	Minimum lateral clearance from non-movable objects (e.g. wall)
c	50 mm	Minimum lateral clearance from movable objects (e.g. furniture)
f	400 mm	Minimum clearance from flammable walls with non-insulated exhaust pipe
	200 mm	Minimum clearance from flammable walls with insulated exhaust pipe (20 mm)[2]
		Minimum clearance from flammable walls with tested double-walled insulated exhaust pipe, acc. to accreditation of connecting piece[3]

Note!

The intake air line must be non-flammable (e.g. flexible aluminium tube) if the exhaust pipe is uninsulated.If the walls are non-flammable, there are no fire protection reasons for a minimum service clearance from the exhaust pipe and no need to insulate the exhaust pipe.



AB..... Cover plates (accessories: FIRE 025 or FIRE 026)

Fig. 7 FireWIN – view from above

1 When the fully automated feed unit FIRE 040 is installed subsequently, the pellet flue-connected boiler must be closed again by a heating expert. Subsequent installation is highly complicated and can only be done by our customer service, with charging based on the actual work done.

2 Technical data for exhaust pipe insulation: Mineral wall insulation; melting point: >1000 °C; thermal conductivity: < 0.04 W/mK

3 The minimum service clearance is determined by the design specifications (Ø of the double pipe) of the flue gas system used or the minimum service clearances demanded in the accreditation.

2.6.3 Minimum service clearances with flue gas tube connection to the left or right side

Dimension	Clearance	Description
a	800 mm	Minimum clearance in radiation area (front window) from flammable materials
b	600 mm	Minimum lateral clearance from non-movable objects (e.g. wall)
c	50 mm	Minimum lateral clearance from movable objects (e.g. furniture)
d[1]	>500 mm	Minimum clearance from flammable walls with non-insulated exhaust pipe
	>305 mm	Minimum clearance from flammable walls with insulated exhaust pipe (20 mm)[2]
	>210 mm[3] >250 mm[3]	Minimum service clearance from flammable walls, flue connection to left or right and tested double-walled insulated exhaust pipe [3]
	>140 mm	Minimum service clearance from non-flammable walls, flue connection to left or right
f	400 mm	Minimum clearance from flammable walls with non-insulated exhaust pipe
	200 mm	Minimum clearance from flammable walls with insulated exhaust pipe (20 mm)[2]
	>50–70 mm[3]	Minimum clearance from flammable walls with tested double-walled insulated exhaust pipe, acc. to accreditation of connecting piece[3]

Note!

The intake air line must be non-flammable (e.g. flexible aluminium tube) if the exhaust pipe is uninsulated. If the walls are non-flammable, there are no fire protection reasons for a minimum service clearance from the exhaust pipe and no need to insulate the exhaust pipe.

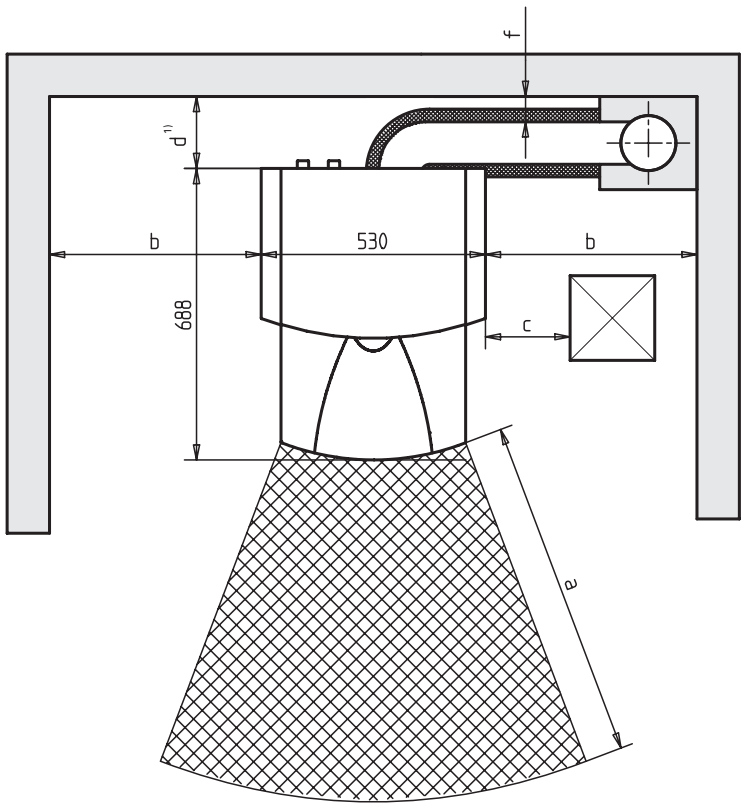


Fig. 8 FireWIN – view from above

1 When the fully automated feed unit FIRE 040 is installed subsequently, the pellet flue-connected boiler must be closed again by a heating expert. Subsequent installation is highly complicated and can only be done by our customer service, with charging based on the actual work done.

2 Technical data for exhaust pipe insulation: Mineral wall insulation; melting point: >1000 °C; thermal conductivity: < 0.04 W/mK

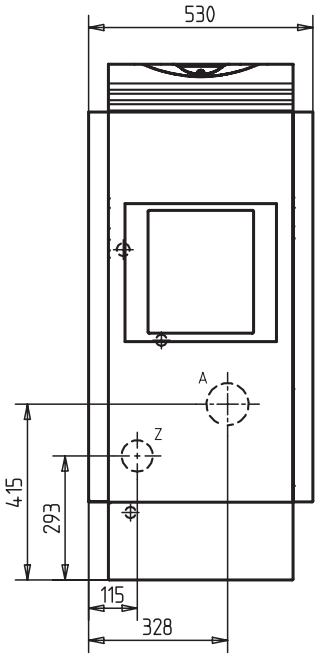
3 The minimum service clearance is determined by the design specifications (Ø of the double pipe) of the flue gas system used or the minimum service clearances demanded in the accreditation.

2.7 Dimensional sketches

2.7.1 FireWIN flue gas and air supply connection

All dimensions in mm:

Front view



A.....Flue gases
Z.....Air intake

Side view

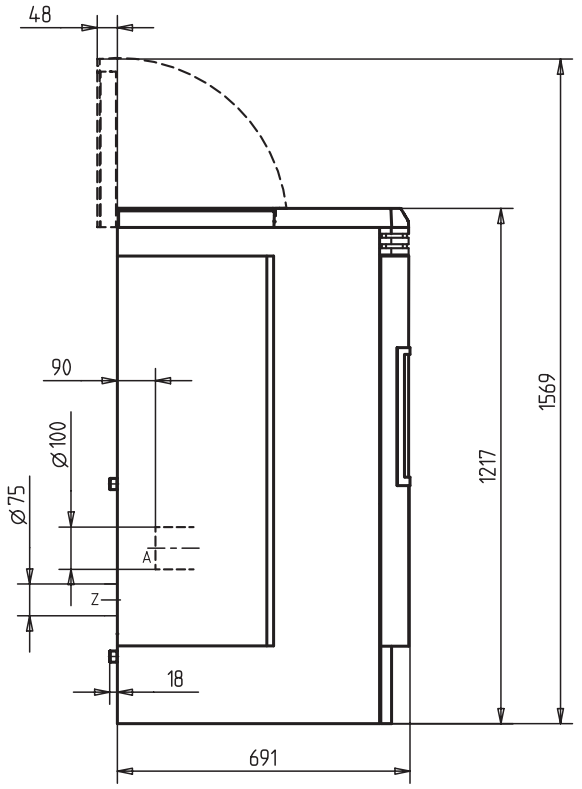


Fig. 9 FireWIN flue gas and air supply connection

Standard:

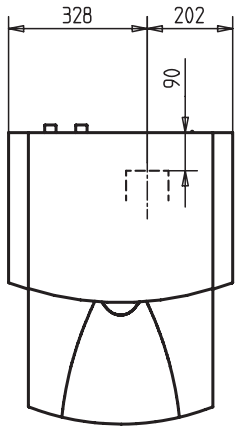
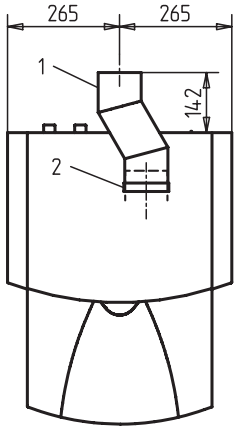


Fig. 10 FireWIN flue gas connection – standard

Accessories – AZB 057, AZB 055 for exhaust pipe connection in the middle:



1.....Double exhaust pipe bend rigid – AZB 057
2.....Pipe clamp – AZB 055

Fig. 11 FireWIN flue gas connection – accessories: AZB 057, AZB 055

Accessories exhaust pipe connection with 2 x Bend 90° rigid:

Side view

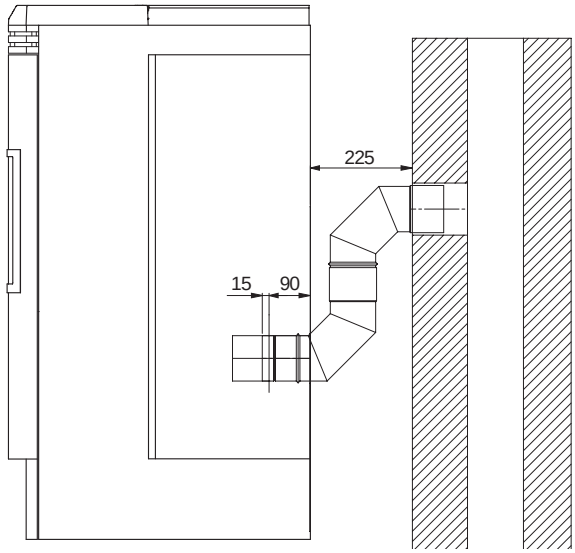


Fig. 12 FireWIN flue gas connection –
exhaust pipe connection with 2 x Bend 90° rigid

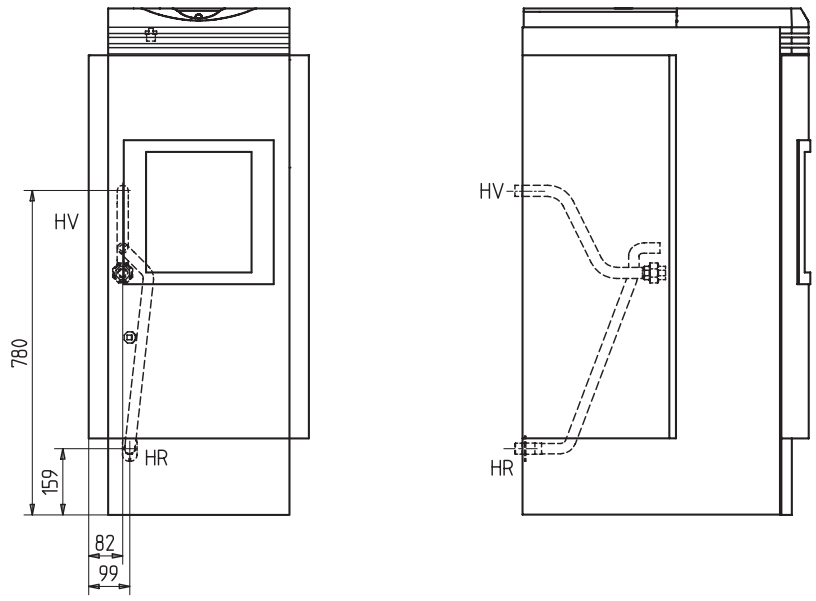
2.7.2 FireWIN without heating fittings

Note!

When using the FIRE 025 and 026 covering screens, all connections must be positioned under the exhaust pipe because the covering screens are fully closed above the exhaust pipe.

Front view

Side view



All dimensions in mm:

HV.....Heating feed (3/4" pipe)
HR.....Heating return (3/4" pipe)

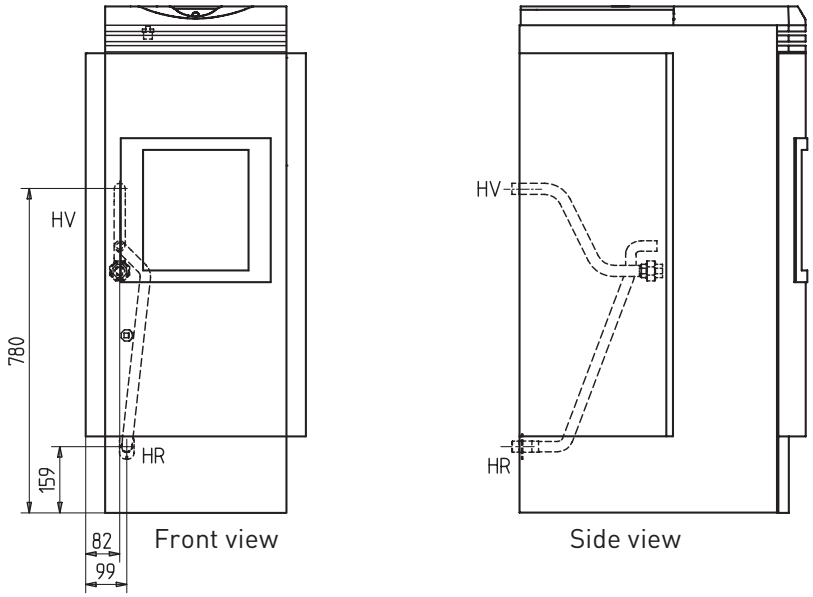
Fig. 13 FireWIN without heating fittings

2.7.3 FireWIN – UAM

with energy-saving circulation pump, expansion tank 12 l, motorised mixing valve, safety valve and pressure gauge

Note!

When using the FIRE 025 and 026 covering screens, all connections must be positioned under the exhaust pipe because the covering screens are fully closed above the exhaust pipe.



All dimensions in mm:

HV.....Heating feed (3/4" sleeve)
HR.....Heating return (3/4" pipe)

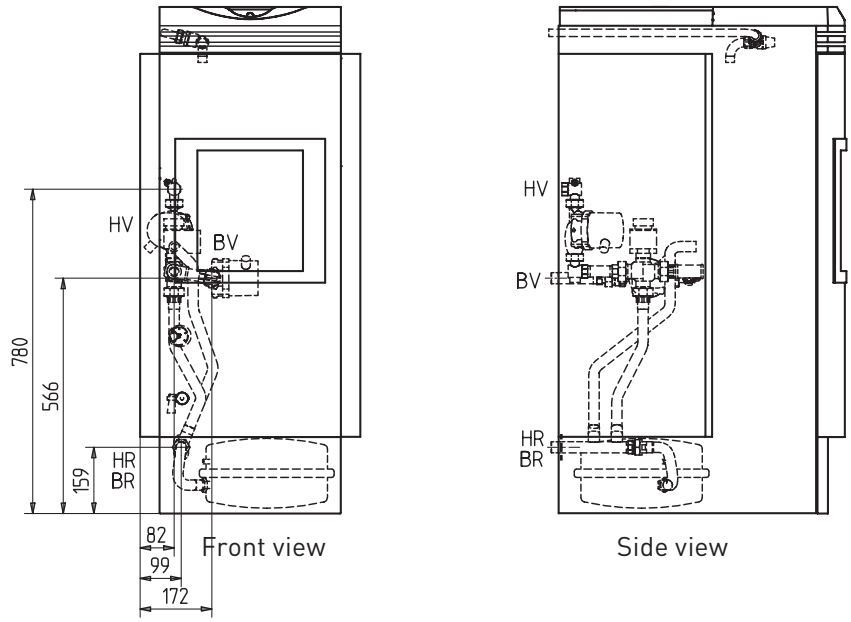
Fig. 14 FireWIN UAM

2.7.4 FireWIN – UAML

with energy-saving circulation pump, hot water tank feed pump with gravity brake, expansion tank 12 l, motorised mixing valve, safety valve, pressure gauge and non-return valve for heating circuit

Note!

When using the FIRE 025 and 026 covering screens, all connections must be positioned under the exhaust pipe because the covering screens are fully closed above the exhaust pipe.



All dimensions in mm:

HV.....Heating feed (3/4" sleeve)
HR .....Heating return (3/4" pipe)
BV.....Boiler feed (3/4" pipe)
BR.....Boiler return (3/4" pipe)

Fig. 15 FireWIN UAML

2.7.5 Suction turbine

Note!

The hose connection to the changeover unit can be turned through 180° to the other side.

All dimensions in mm:

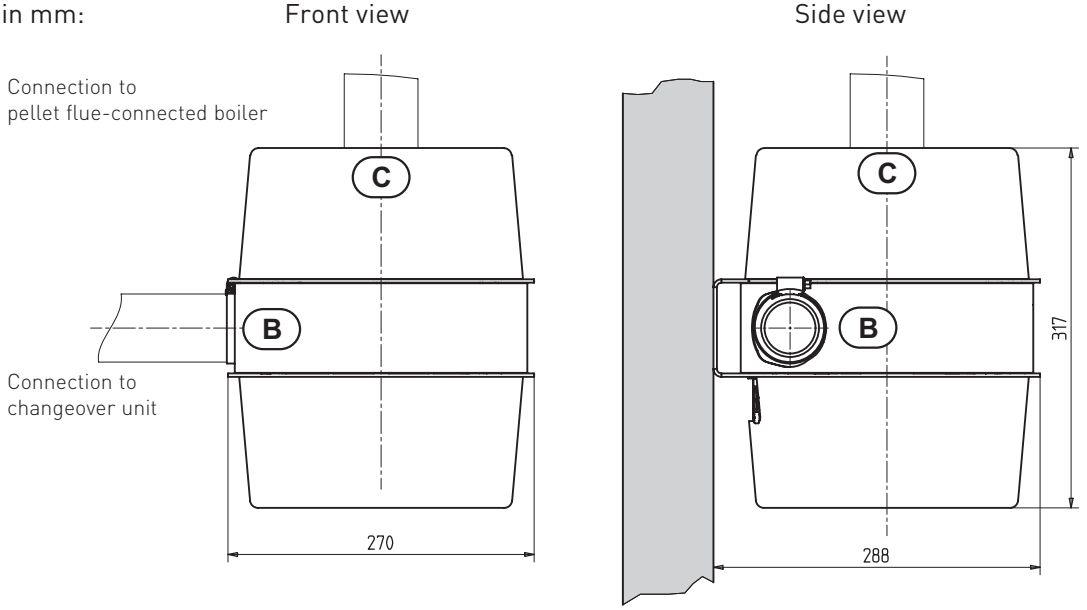


Fig. 16 Suction turbine

2.7.6 Mounting base – FIRE 022

for initial installation of FireWIN without finished floor screed

All dimensions in mm:

1.....Sheet steel floor plate with recess for mounting base (FIRE 033 or FIRE 034)
2.....Floor structure with lining
3.....Concrete ceiling – provided by customer

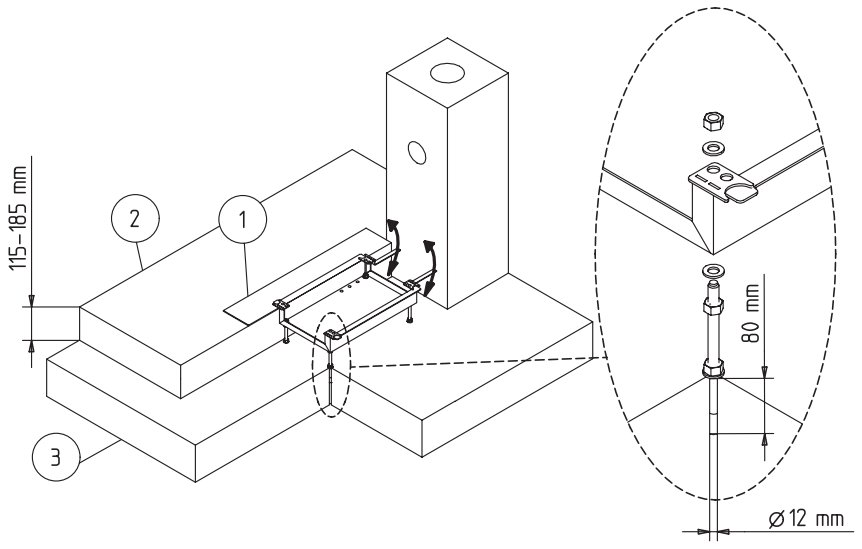


Fig. 17 FireWIN mounting base

2.8 Routing variants of delivery and return air hose

2.8.1 Routing / connection options for boiler

Information!

The delivery and return air hose must be replaced by non-flammable steel pipes in the area of the **insulated** exhaust pipe.

Standard hose connection downwards – standard

Hose connection upwards – accessory FIRE 041

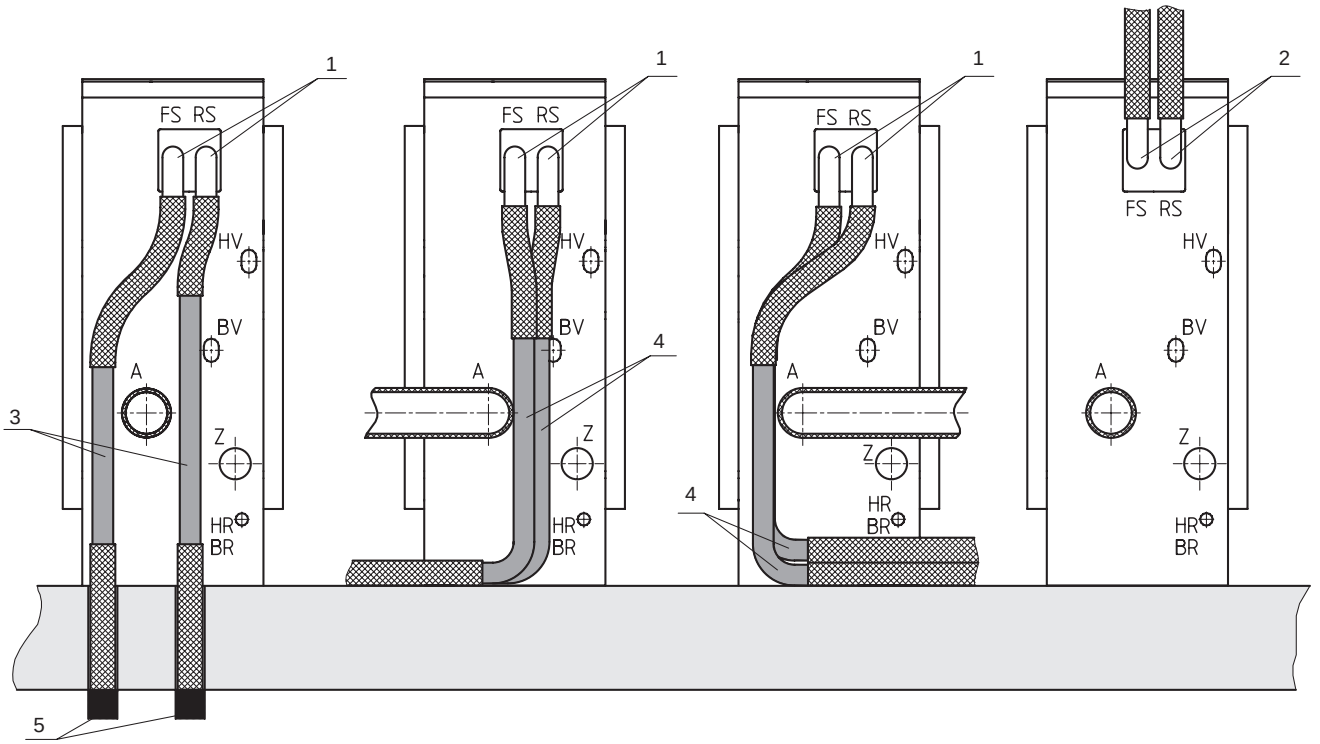


Fig. 18 FireWIN with feed and storage room – view from rear

1..... Standard hose connection downwards
2..... Hose connection upwards – accessory: FIRE 041
3..... Metal pipes for delivery and return air straight – accessory: FIRE 044
4..... Metal pipes for delivery and return air curved – accessory: FIRE 045
5..... Fire protection collars incl. masonry attachment – accessory: BIO 010

FS ..... Transport hose
RS..... Reverse air flow hose
A ..... Exhaust pipe
Z ..... Air supply connection
HV..... Heating feed
HR ..... Heating return
BV..... Hot water tank feed (type UAML only)
BR..... Hot water tank return (type UAML only)

2.8.2 Storage room and feed system in living area or basement

With this routing variant, the temperature difference between the boiler installation room and the pellet storage room containing the suction turbine and changeover unit must never exceed 15°C. Large temperature differences will cause condensation to form inside the hoses.

Attention!

The configuration of the entire system must comply with technical fire protection requirements in accordance with the applicable regulations, standards and guidelines.

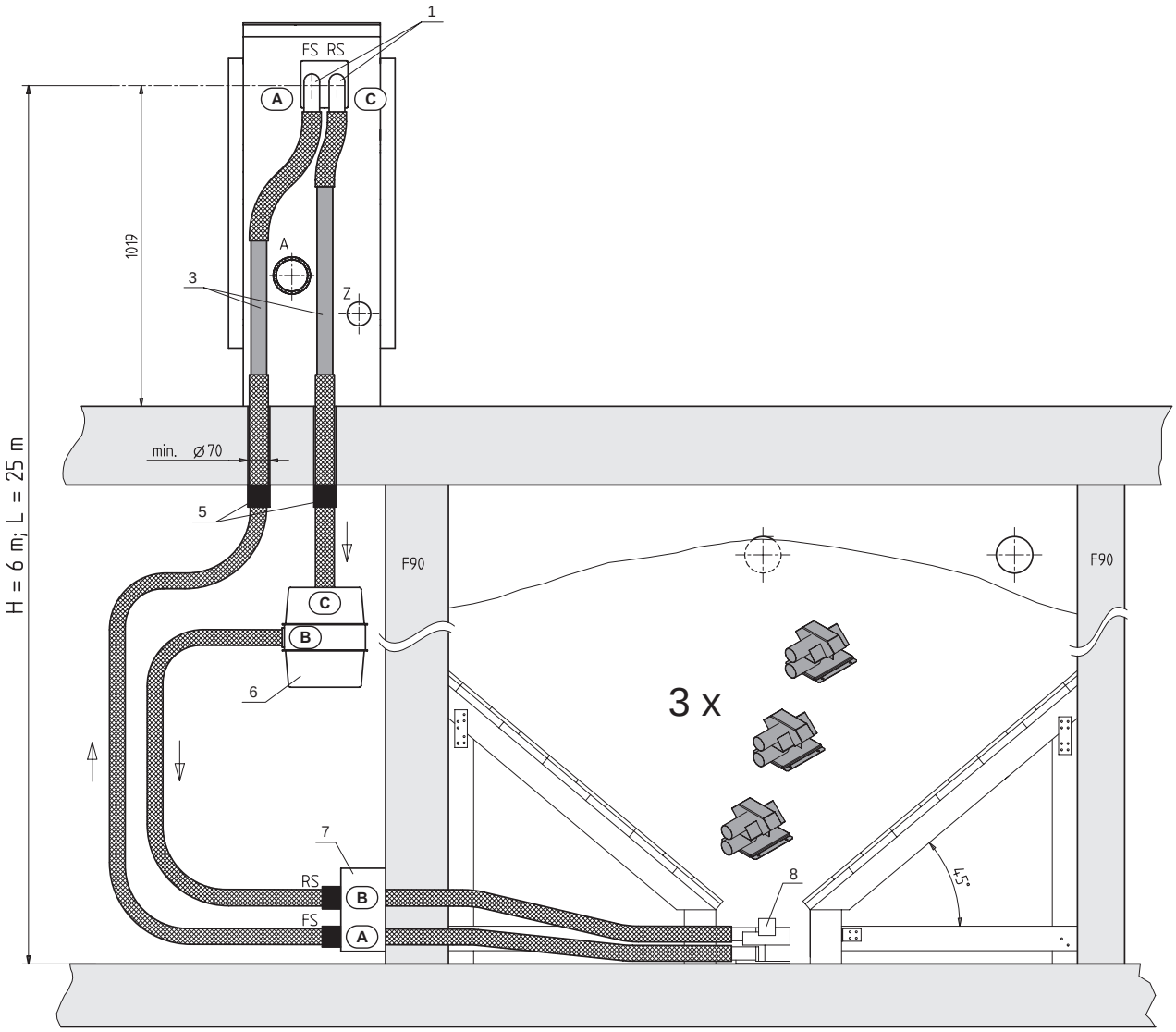


Fig. 19 FireWIN with automatic pellet feed from a storage room inside the heated living area – View from rear

1 ..... Standard hose connection downwards
3 ..... Metal pipes for delivery and return air straight – accessory: FIRE 044
5 ..... Fire protection collars incl. masonry attachment – accessory: BIO 010
6 ..... Suction turbine
7 ..... Fully automated changeover unit – in accessory: BIO 020
8 ..... Suction wands in storage room – in accessory: BIO 020

FS ..... Transport hose
RS ..... Reverse air flow hose
A ..... Exhaust pipe
Z ..... Air supply connection
H ..... Maximum transport height in metres
L ..... Maximum hose length in metres

2.8.3 Storage room and feed system in unheated non-living areas (e.g. attic)

If the temperature difference between the boiler installation room and the pellet storage room containing the suction turbine and changeover unit is likely to exceed 15°C, installation must be carried out as shown in the sketch, Fig. 20. In this case, a shut-off unit (9) – accessory: BIO 025 – must be installed in the transition point between the heated and unheated areas. This shut-off unit prevents the air from circulating, thereby stopping condensation from forming inside the hoses.

Attention!

The configuration of the entire system must comply with technical fire protection requirements in accordance with the applicable regulations, standards and guidelines.

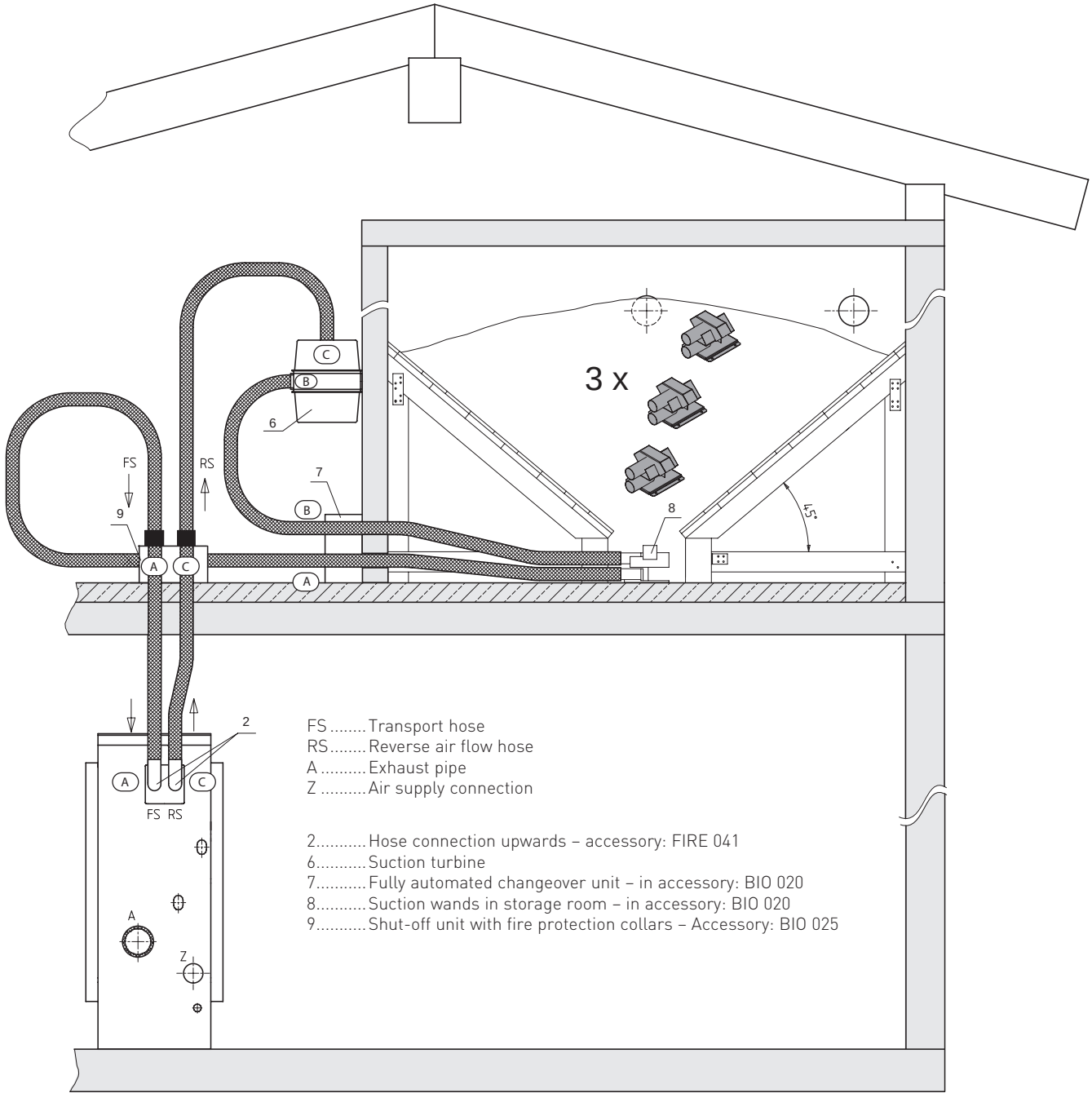


Fig. 20 FireWIN with automatic pellet feed from a storage room inside the unheated non-living areas – View from rear

2.9 Installation sequence

On request the FireWIN can be supplied with various accessories, e.g. the UAM/UAML fitting set or feed unit.

The installation sequence is as follows:

a) Fit the UAM/UAML fittings / hydraulic assemblies (see separate installation instructions) or, without fittings, fit the flow and return pipes – see 2.10.
b) Install the feed unit – see separate installation instructions.
c) Install the FireWIN cladding – see 2.12.
d) Mounting plate for non-flammable steel tubes within the area of the exhaust pipe – see 2.13.
e) Installing cover plates – see 2.14.
f) Install the exhaust pipe – see 2.15.

2.10 Installation of hydraulic equipment / fittings

The hydraulic fittings must be fitted in the FireWIN prior to installation.

2.10.1 Installation of fittings for FireWIN UAM / UAML

See separate assembly instructions: „Fitting the hydraulic assemblies UAM / UAML in the FireWIN or VarioWIN pellet boiler".

2.10.2 Installation of flow and return pipes for FireWIN without fittings

comprises the following parts:

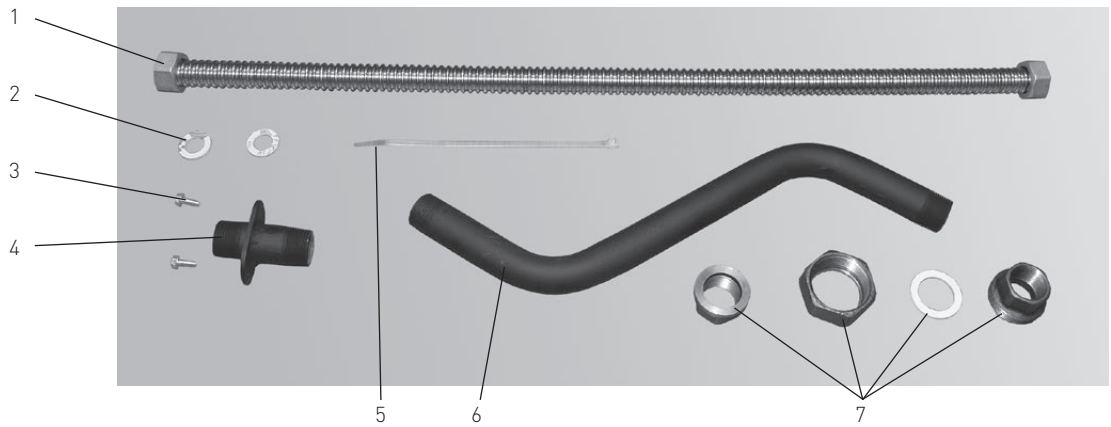


Fig. 21 Flow and return pipes for FireWIN

1..... Return corrugated tube
2..... Klingerit seal for return line
3..... Screw for attaching return pipe
4..... Return pipe
5..... Cable tie
6..... Flow pipe
7..... Screw connections with seal for flow pipe

Montage Vorlaufrohr:

– Seal screw-in part and insert of screw connection (part 7) on flow pipe (part 6) and lower boiler connection – Fig. 22.

Fig. 22 Sealing the screw connection and fitting the flow pipe

Installation of return pipe / return corrugated tube:

– Secure return pipe (part 4) to rear wall with 2 screws (part 3) – Fig. 23.

– Route return corrugated tube (part 1) behind flow pipe (part 6). Screw on to top boiler connection using union nut and Klingerit seal – Fig. 24.

2 x

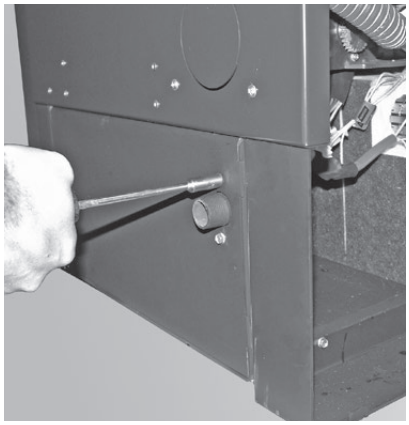


Fig. 23 Securing return pipe with 2 screws

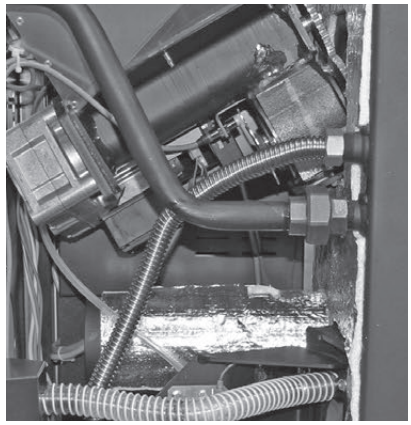


Fig. 24 Attaching return corrugated tube to top boiler connection

– Route return corrugated tube (part 1) behind flow pipe to return pipe (part 4) and screw in place with union nut and Klingerit seal – Fig. 25.

– Secure return corrugated tube to flow pipe with cable tie (part 5) and re-attach insulation – Fig. 26.

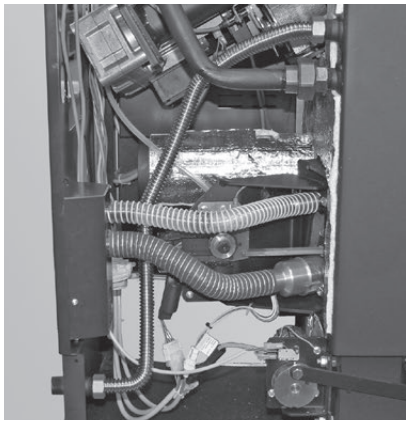


Fig. 25 Routing return corrugated tube behind flow pipe to return pipe

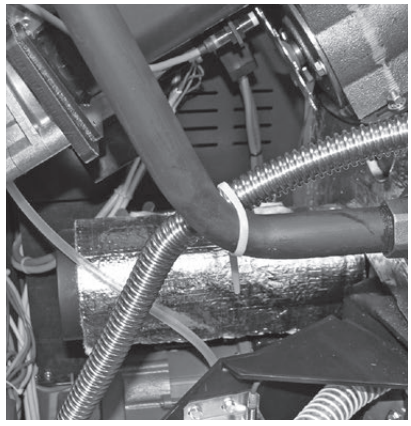


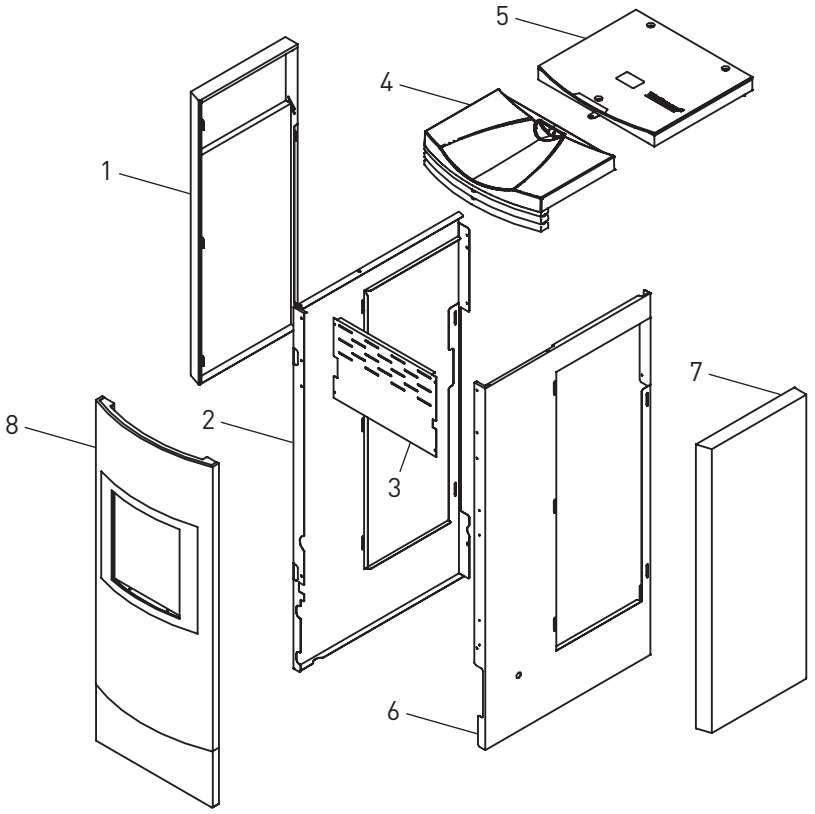
Fig. 26 Securing return corrugated tube to flow pipe with cable tie

2.11 Installing the feed unit

For FireWIN Exklusiv and FireWIN Premium with pneumatic pellet feed only.
See separate assembly instructions: „Installation of Feed Unit in FireWIN or VarioWIN“.

2.12 Installing the cladding

The cladding comprises the following parts:



1 ..... Rear left side panel
2 ..... Left side panel
3 ..... Front cover plate
4 ..... Front cover
5 ..... Rear cover
6 ..... Right side panel
7 ..... Rear right side panel
8 ..... Cladding door

Fig. 27 Cladding parts

Installation sequence:

- Fit „rear cover“ (part 5) at the rear, use 4 nuts to secure to reserve supply container – Fig. 28.
- Connect 4-pin plug of InfoWIN^{PLUS} cable. The 5-pin plug should only be connected if you are using an REG control. It should not be connected if you are using an MES^{PLUS} control – Fig. 29.

4 x

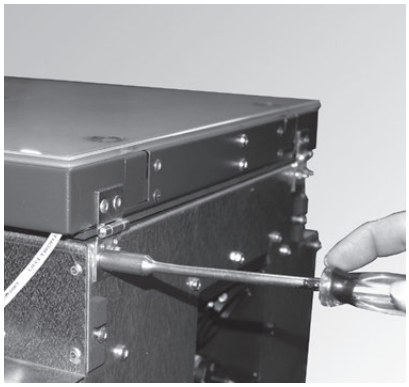


Fig. 28 Fit rear cover at 4 points

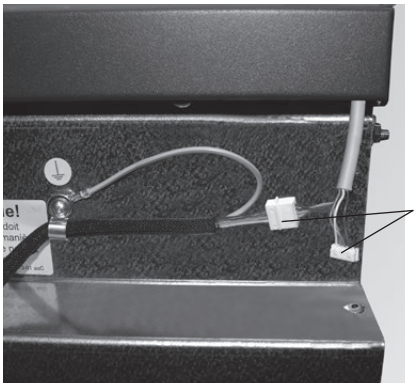


Fig. 29 Connect InfoWIN^{PLUS} plug, fit earth cable to reserve supply container

2. For the Installer

– Secure the “left side panel” (part 2) to the boiler at the rear using 3 screws – Fig.30 and front using 2 screws – Fig. 31.

3 x

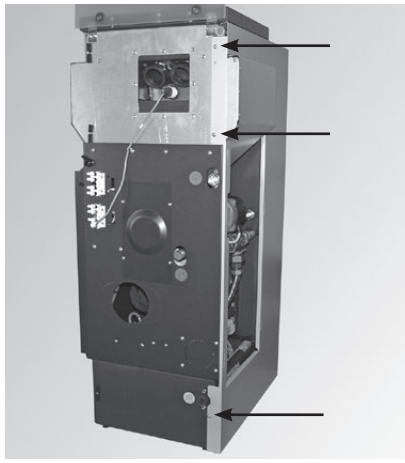
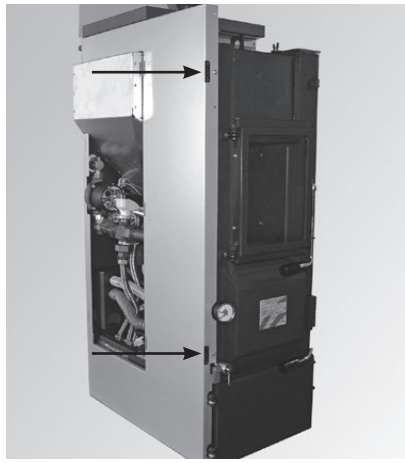


Fig. 30 Screwing the side panel on at the rear at 3 points



2 x

Fig. 31 Screwing the side panel on at the front at 2 points

– Secure the “front cover plate” (part 3) onto the side panel using 2 screws – Fig. 32.
– Secure the “right side panel” (part 6) to the boiler at the rear using 3 screws, at the front using 2 screws and screw onto the “front cover plate” (part 3) – Fig. 33.

2 x

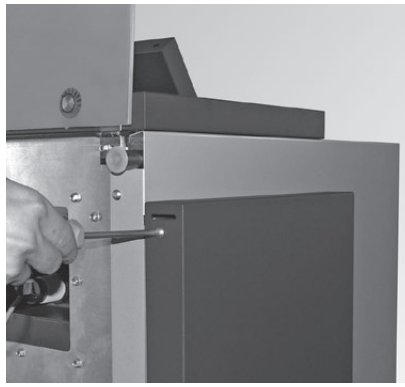
Fig. 32 Screwing the front cover plate on at the front at 2 points

5 x

Fig. 33 Mounting the right side panel in the same way as the left side panel

– Hook in the “rear side panels” (parts 1 and 7) – Fig. 34.
– Secure the “rear left side panel” using a screw at the rear – Fig. 35.

Fig. 34 Hooking in side panels at the rear



1 x

Fig. 35 Securing the left side panel using a screw at the rear

2. For the Installer

– Screw both hinges of the "cladding door" (part 8) onto the left side panel using – Fig. 36.

– Check the setting of the door safety switch; close the door, the door safety switch must be operated about 2 – 3 mm before the door magnet closes (audible clicking of the switch); adjust the actuation play with the screw if necessary – Fig. 37.

2 x

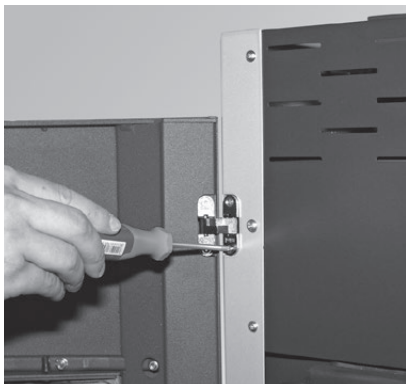


Fig. 36 Inserting the hinges in the side panel

Fig. 37 Checking the setting of the door safety switch

– Place the "front cover" (part 4) onto the side wall with its pins in the holes provided on the side panel – Fig. 38.

– Press the button (Fig. 39), it must be easy to open the glass cover, align the front cover if necessary.

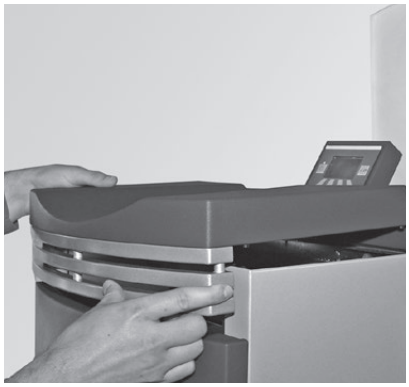


Fig. 38 Putting on the front cover

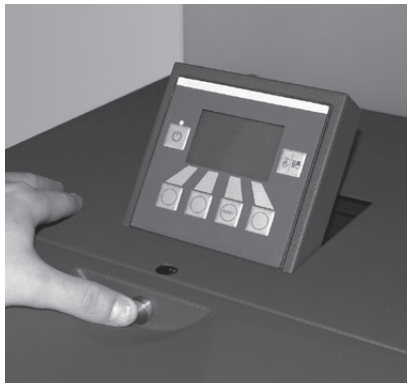


Fig. 39 Checking the button moves easily

– Once the cladding and lid have been aligned, fit both gas springs for the lid – Fig. 40.

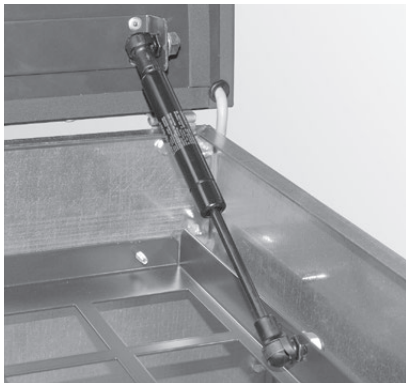


Fig. 40 Fitting gas springs

2.13 Mounting plate for non-flammable steel tubes within the area of the exhaust pipe

That the steel tubes of the supply do not rest against the exhaust pipe, the enclosed mounting plate can be installed in the back at the rear wall between steel tubes and exhaust pipe – Fig. 41.

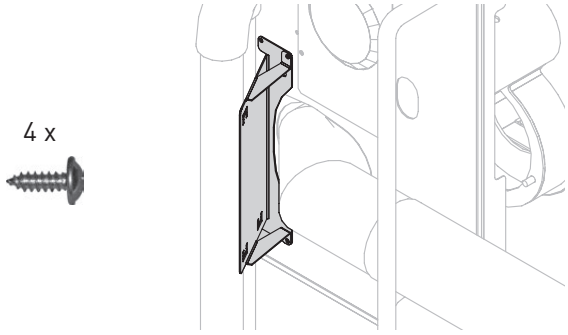


Fig. 41 Mounting plate for supply steel tubes

2.14 Installing the exhaust pipe

a) Install the exhaust pipe upward to the flue (45° is the ideal angle). Maximum exhaust pipe length 3 m.

Information!

Any section of this exhaust line that only rises slightly (up to 30°) or is horizontal is not allowed to be more than 1 m in length.

b) Avoid 90° bends, 45° bends are better.

c) Make the flue connection at 45° if possible.

d) Do not push the exhaust pipe too far into the flue.

e) Do not seal the exhaust pipe completely into the flue. Connection with flexible exhaust pipe inlet into the flue. The vacuum fan can cause sound transmissions that create noise pollution.

f) The FireWIN is a low-pressure boiler and this means that the flue gas system needs to meet the „N1“ seal integrity requirement according to EN 1856-1 and EN1856-2. Please ensure a sufficient immersion depth when fitting (e.g. when using Windhager stainless steel flue systems).

g) Always fit exhaust pipes together with the sleeve pointing upwards (smaller diameter end of stainless steel flue accessory fits exactly onto flue outlet in FireWIN), so that any condensation flowing back cannot leak out of the exhaust pipe – Fig. 42.

   The parts must be secured with pipe clamps to ensure adequate leaktightness and stability. Pipelines are not allowed to sag.

h) The entire exhaust line (particularly after 1 m length) should be insulated in order to prevent or minimise condensation.

i) An additional measuring opening is only allowed to be drilled in the stainless steel exhaust pipe using a stainless steel drill bit.

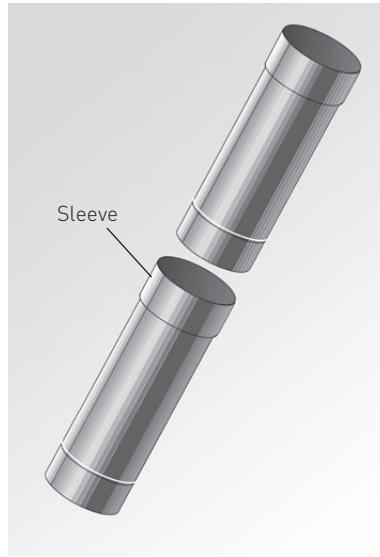


Fig. 42 Stainless steel exhaust pipe

Information!

In fully automated pellet feed, the exhaust pipe must be insulated and the delivery and return hose must be replaced by non-flammable steel pipes in this area.

Attention!

Energy-saving intake regulators or explosion flaps are not allowed to be installed in the living area. Comply with the statutory regulations and directives.

2.15 Installing cover plates

Installation sequence:

- Separate the required feed-throughs for the exhaust pipe, feed and return, transport hoses, etc. from the prepunched cover plates.
- Every other hexagon screw (5) at the rear on each side panel should not be screwed all the way to the stop (1.5 mm gap).
- Hook both side cover plates (2 and 3) in at these screws and fix onto one another using 2 pcs. plastic rivets (4).
- Put on the to cover plate (1) and secure with 2 pcs. plastic rivets (4).

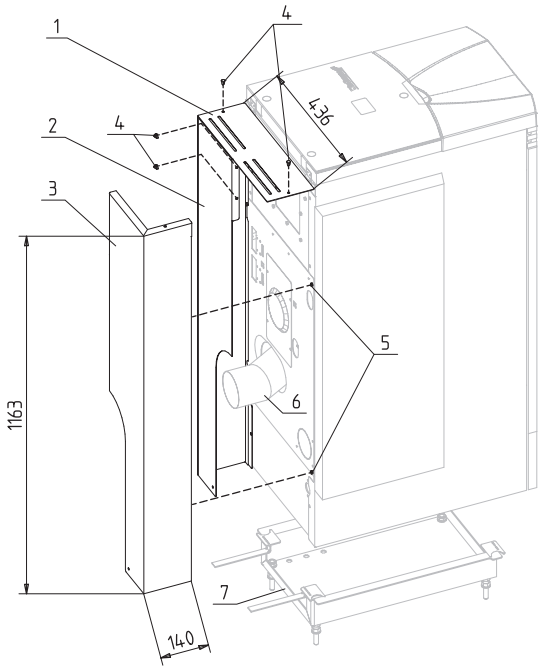


Fig. 43 Installing the cover plates

Cover plate FIRE 025 or FIRE 026

comprising:

1..... Top cover plate
2..... Right cover plate
3..... Left cover plate
4..... 4 pcs. plastic rivets
5..... 4 pcs. hexagon screws M5 x 12 TT

Other illustrated accessories acc. to price list:

6..... Double exhaust pipe bend rigid – AZB 057, for FireWIN exhaust pipe connection in the middle
7..... Mounting pedestal – FIRE 022, for pre-mounting FireWIN without finished floor screed

2.16 Initial start-up and operating instructions

Windhager Customer Service or the customer service partner will start up the boiler first of all, and will familiarize the customer with the system operation and cleaning of the boiler, with reference to the Operating Manual.

The following preconditions must be met before you order the initial start-up:

1.) Boiler installed correctly.
2.) System fully wired up electrically.
3.) System rinsed, filled and vented – heat consumption must be possible.
4.) Boiler connected to domestic water and filled.
5.) Sufficient quantity of fuel available (pellets, split logs, oil or gas).
6.) The customer must be present during start-up.

The initial start-up cannot be carried out if any of these points is neglected. The customer will be charged for any unnecessary costs arising as a result.

Start-up and maintenance by Windhager Customer Service or a customer service partner are part of the guarantee requirements of the enclosed "guarantee limitations".

Note!

During the first few weeks after start-up, condensation can occur in the combustion chamber, ash pan and on the heating surfaces. This has no effect on the function and service life of the boiler.

3. For the Electrician

3.1 Electrical connections

The boiler and related accessories are designed to be installed only in dry areas (protection type IP 10). Installation of electrical components may only be performed by a qualified technician. The regulations and specifications of ÖVE, VDI, SEV and local ordinances must be followed.

Attention!

- The mains connection must be protected against short circuit with a 13 A delayed-action fuse.
- On site, the technician must install an all-pole disconnection with at least 3 mm contact gap at the mains access point. Current-operated r.c.d. or frequency conversion protection switches are considered all-pole disconnections (ÖVE regulation).

The boiler is pre-wired and internally fused with a T 6.3 A fine-wire fuse to protect against short circuit. If an MES^{PLUS} module is ordered (including boiler sensor), this will be installed in FireWIN and electrically wired at the factory. When there are several MES^{PLUS} modules, they are all installed in the wall-mount casing to facilitate operation:

Maximum MES^{PLUS} module switching capacity: Relay outputs: 230 VAC, 6 A (2 A inductive), 50 Hz
WVF+ and B-PLM+ modules with X1/X2 contact: Solid-state relay: 230 VAC, 1 A

The electrical power consumed depends on whether a fully automated pellet feed (suction turbine) is connected, and on the number of actuators supplied (pumps, mixing valves, etc.).

In areas with increased power surge risk (e.g., lightning strikes in regions prone to storms), we recommend installation of an appropriate surge protector.

Information!

Be sure to note the separate wiring of the extra-low voltage line (sensor) and low-voltage line (230 VAC)!

Electrical cables must not touch heating and exhaust pipes, nor must they come in contact with noninsulated boiler components. They are to be sufficiently braced and provided with a protective tube.

3.1.1 Electrical connection of the FireWIN

We recommend using fine-wire PVC sheathed cables, e.g., H05VV-F (YMM-J) with a 3 x 1.5 mm^2 nominal crosssection.

Electrical power supply 230 VAC (mains power plug) and the control panel with all electrical connections are located behind the right side panel cladding. The mains plug, safety thermostats, fuse and MES^{PLUS} module are located on the outside of the control panel. The control panel includes the main board and the connection terminals (screwless spring-type terminal) for connecting the control system – Fig. 44.

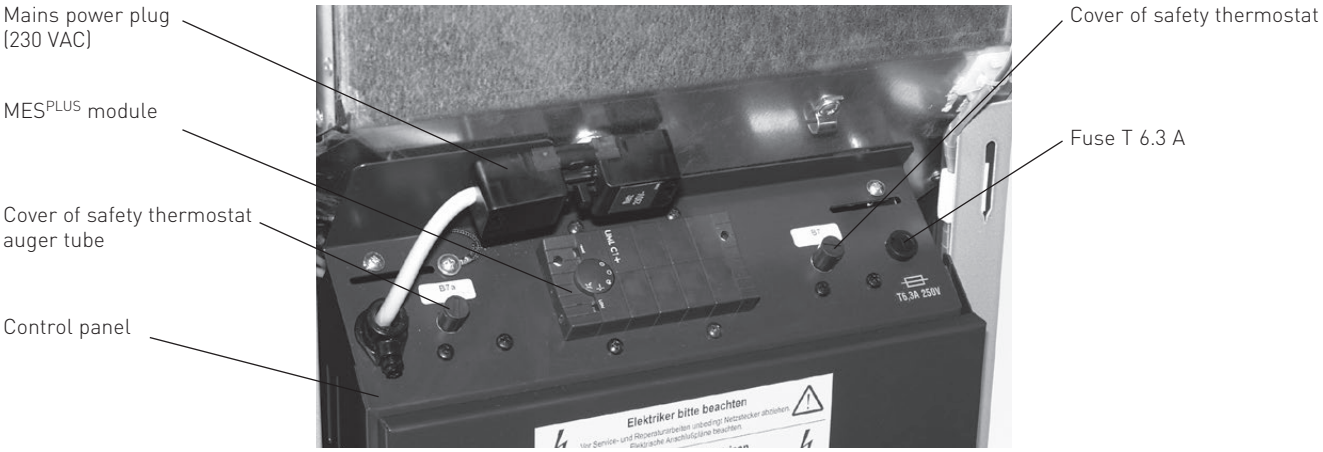


Fig. 44 Control panel

3.1.2 Electrical connections of the suction turbine, changeover unit, regulation

Note!

Each cable **must be routed** separately **together with** the delivery and return air hose. The cables can be routed together with the hoses through the fire protection collars to the suction turbine or to the changeover unit.

Connection of pellet flue-connected boiler to the suction turbine:

Two separate cables (5 and 8-core) **are required** – this is a requirement of the guarantee conditions!
The cable cross-section must be selected according to the length of the electric cables so that **the suction turbine** always has a **stable voltage supply (min. 220 VAC under load)**.
Recommended accessory:
Ribbon cable **5 x 2.5 mm² and 8 x 1 mm²** (FIRE 042 or FIRE 043).

Note!

The 8-core cable must be connected in the suction turbine, because this also carries the LON bus and is required for service work.

Connection of suction turbine to the changeover unit:

Two separate cables (3 and 4-core) **are required** – this is a requirement of the guarantee conditions!
Cable for limit switch (extra-low voltage): **min. 3 x 0.5 mm²** (not earthed)
Cable for changeover unit motor (low voltage): **4 x 1.5 mm²**

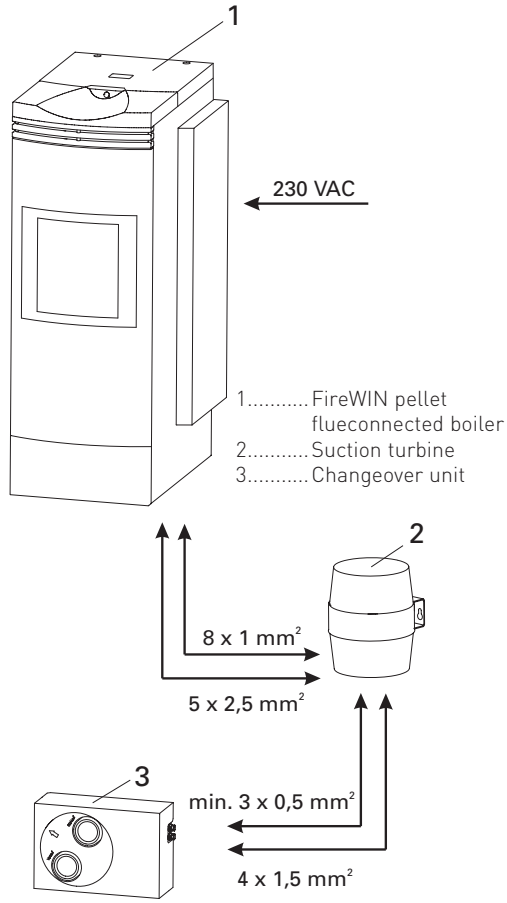


Fig. 45

To access the control panel:

- The rear right side panel must be unhooked and removed upwards.
- Disconnect the mains power plug and remove the screw behind it – Fig. 46.
- Swivel out the control panel, remove 2 screws and take off the inner cover – Fig. 47.

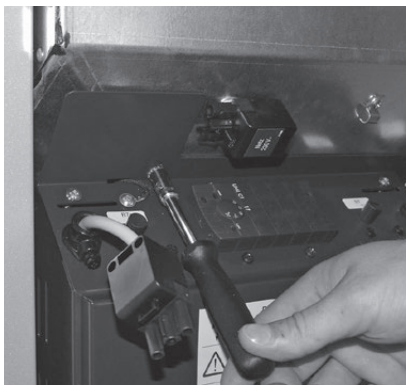


Fig. 46 Disconnecting the mains power plug and removing the screw.

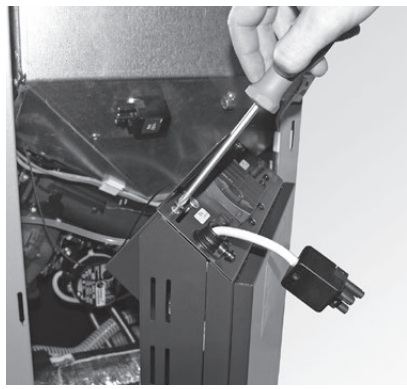


Fig. 47 Removing 2 screws, taking off the inside cover

3. For the Electrician

All electrical components (sensors, etc.) on the terminal blocks (screwless spring-type terminals) should be connected with fine-wire PVC sheathed cables and be fixed at the rear with strain reliefs – Fig. 48, 49.

Two separate cables are required for connecting the boiler to the suction turbine or changeover unit – this is a requirement of the guarantee conditions!

Recommended accessories: Ribbon cable FIRE 042 or FIRE 043; 5 x 2.5 mm^2 and 8 x 1 mm^2

Guide the ribbon cable through the rectangular openings and secure with cable ties as strain relief – Fig.50.

Information!

Each cable **must be routed separately together with** the delivery and return air hose. The cables can be routed together with the hoses through the fire protection collars to the suction turbine or to the changeover unit.

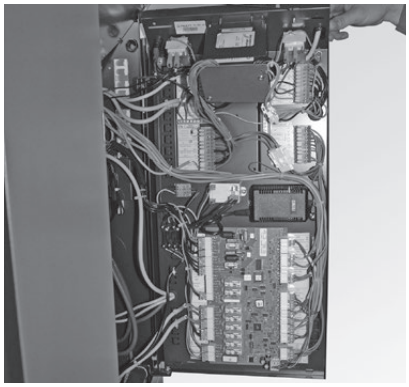


Fig. 48 Terminal blocks in the control panel

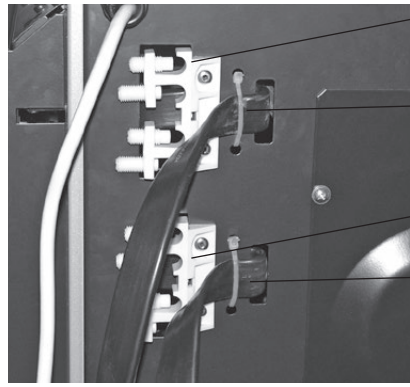


Fig. 49 Strain reliefs and feed-through for ribbon cable

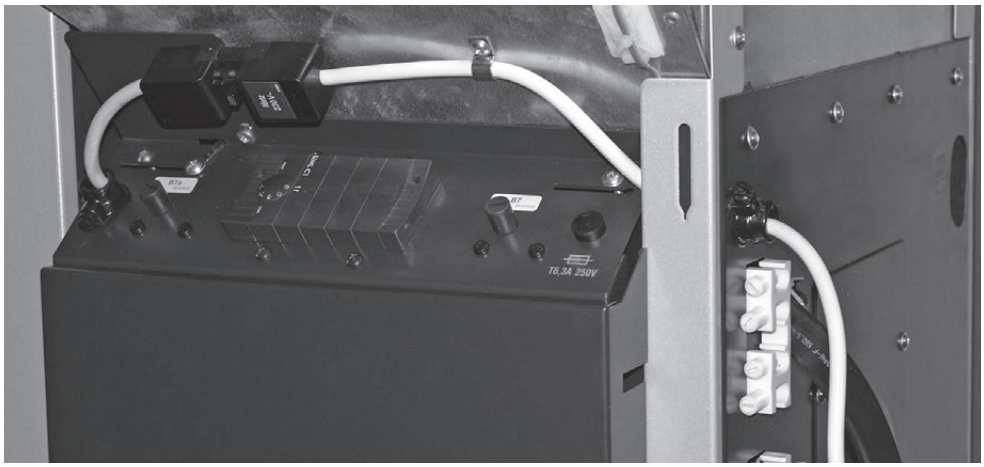


Fig. 50 Cable feed-throughs – rear view

Electrical connections for installed fittings on UAM and UAML:

See separate assembly instructions: „Fitting the hydraulic assemblies UAM / UAML".

4. For the Service Technician

4.1 Start-up and operating instructions

The Windhager Customer Service or Partner Customer Service will start up the boiler and will familiarize the customer with the system operator and cleaning of the boiler. Start-up and maintenance are part of the guarantee requirements of the "warranty conditions" – see also section 2.16.
We recommend that you obtain a maintenance service contract.

4.2 Service and repair work

Service and repair may be performed only by appropriately qualified technicians.

Attention!

Always disconnect the **mains power plug for service or repair purposes.**

After being switch off, the boiler and accessories are not completely without power! When replacing system components (pumps, mixing valves, etc.) prevent all power input by removing the mains power plug.

Remove the right side panel: Unhook the rear side panel, disconnect the mains power plug, remove the securing screw under the mains power plug (Fig. 51) and swivel open the control panel.

Remove the left side panel: Remove the securing screw at the rear on the left side panel (Fig. 52) and unhook the side panel.

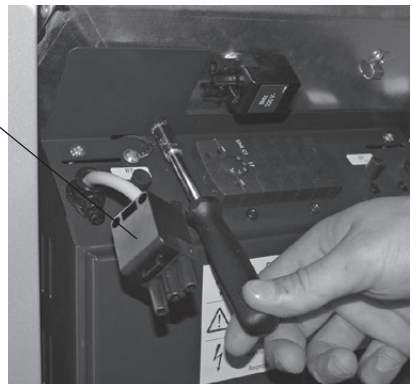


Fig. 51 Disconnecting the mains power plug and removing the screw.

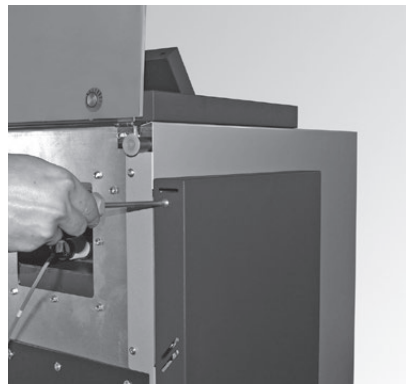


Fig. 52 Removing the securing screw

4.3 Technical data for calculating the flue gas system acc. to EN 13384-1

FireWIN	Formula symbols	Unit	FW 090		FW 120	
			min.	max.	min.	max.
Nominal thermal output	Q_N	kW	4.7	9.0	4.7	12.0
Nominal heat load (firing thermal output)	Q_B	kW	5.0	9.6	5.0	12.8
Volume concentration of CO_2	σ (CO_2)	%	11.0	12.8	11.0	14.3
Flue gas mass flow rate – rated load	$\dot{m}$	kg/s	0.0033	0.0056	0.0033	0.0067
Flue gas temperature – rated load (Average between two cleaning intervals)	T_W	°C	97	133	97	147
Necessary feed pressure	P_W	Pa	5	10	5	10
Flue gas connection diameter	Ø	mm	100		100	

4.4 Technical data – General

FireWIN		Unit	FW 090	FW 120
Boiler class according to EN 303-5			3	3
Set total thermal output		kW	9	12
Set water thermal output range		kW	4.0 – 7.8	4.0 – 10.6
Room thermal output range without heat shield (bottom) with heat shield (top)		kW	0.7 – 1.3 0.3 – 0.8	0.7 – 1.4 0.3 – 1.0
Water-side resistance	ΔT = 20 °K ΔT = 10 °K	mbar	2.1 7.8	3.7 13.6
Boiler temperature control range		°C	60 – 75	60 – 75
Operating pressure	max.	bar	3	3
Test pressure		bar	4.5	4.5
Boiler water volume		l	30	30
Pellet reservoir		l / kg	60 / ca. 37	60 / ca. 37
Weight (net)		kg	218	218
Dimensions W x D x H		mm	530 x 691 x 1217	530 x 691 x 1217
Values from type test Testing office TÜV SÜD Munich. test report no.: W-O 1162-00/08				
Firing efficiency (100-qA)	Rated load / part load	%	94.5 / 95.7	94.1 / 95.7
Flue gas temperature	Rated load / part load	°C	113 / 82	127 / 82
Electrical power consumption of pellet feed:				
Automatic pellet feed		W	1748	1748
Maximum current consumption. pellet feed		A	8.1	8.1
Electrical power consumption of pellet boiler:				
maximum current consumption		A	5.0	5.0
maximum for igniting (ignition. motor. blower.)		W	1054	1054
Ignition process		Wh	97	97
Heating operation	Rated load / part load	W	50 / 33	57 / 33
Idle operation		W	7	7

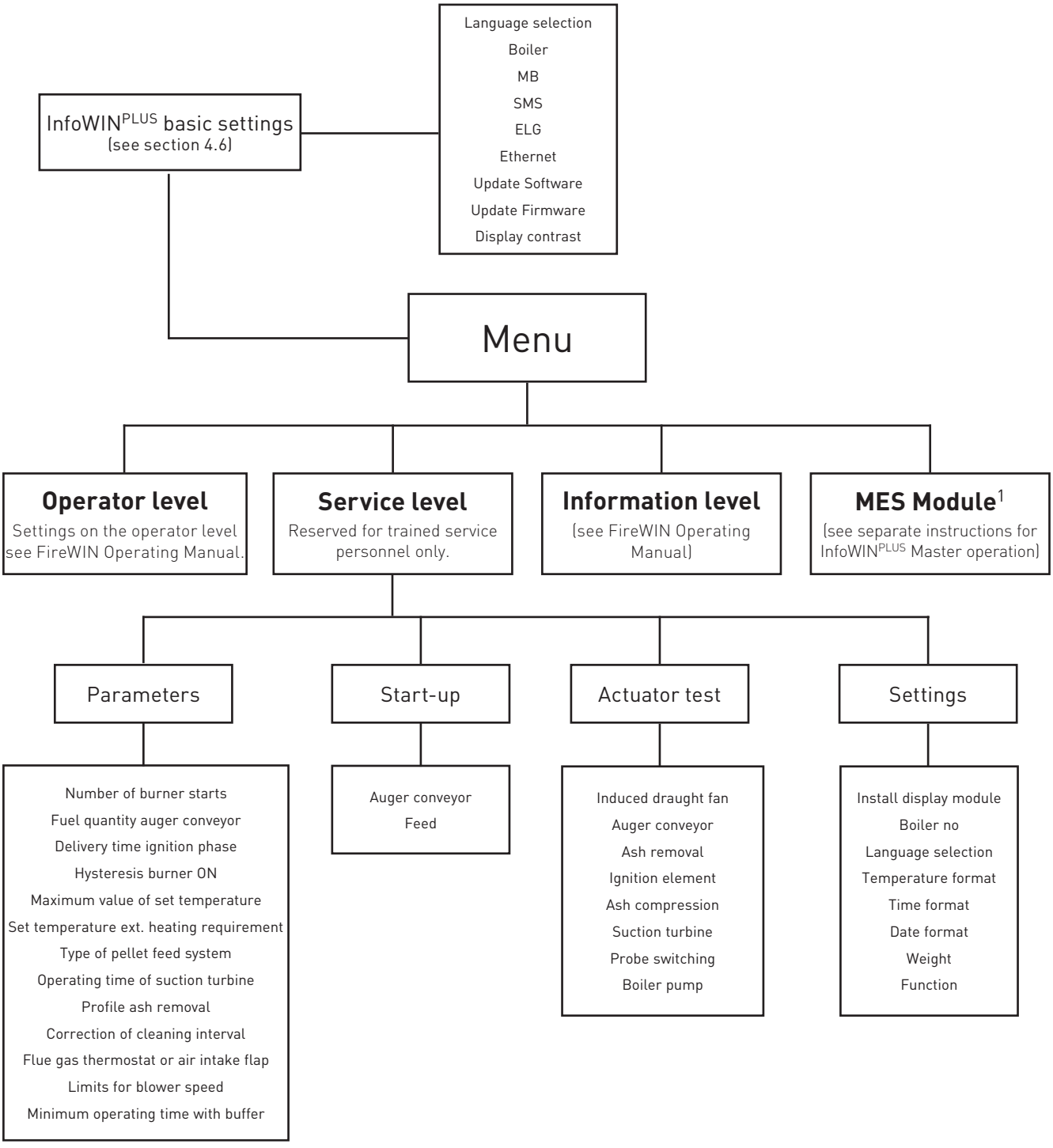
4.5 Service level

System parameters, start-up or actuator test can be displayed, modified and/or performed on the Service level.

Information!

Only trained service personnel may perform system modifications on the Service level.

Structure on the Service level:



1 only displayed when an MES PLUS control is present and this has been adjusted by a trained service technician in the basic settings.

Service level

Pressing the **Menu** button (Fig. 53) shows the „Operator level“, „Service level“, „Information level“ and „MES Module[1]“ in the display – Fig. 54.

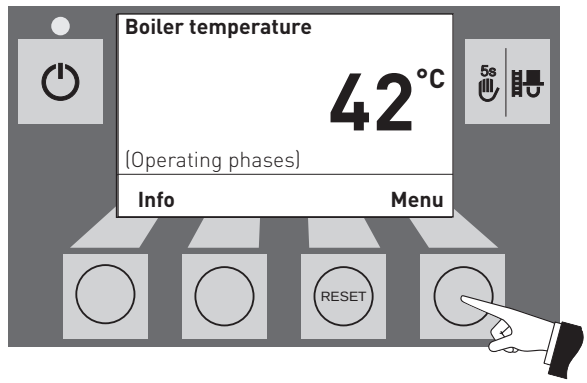


Fig. 53

Use the **arrow** buttons to select the “Service level” submenu – Fig. 54.

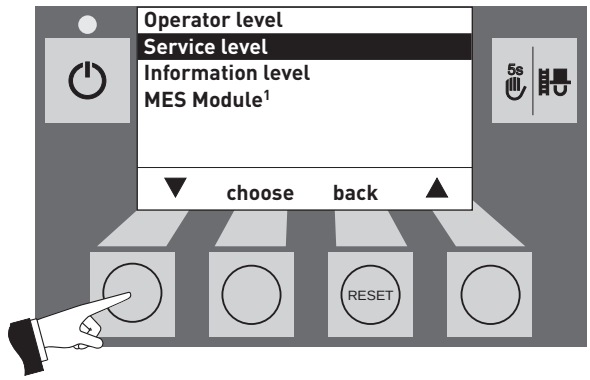


Fig. 54

Press and hold the **choose** button for 5 seconds (Fig. 55). The display shows „Service level only for trained service personnel“ – Fig. 56.

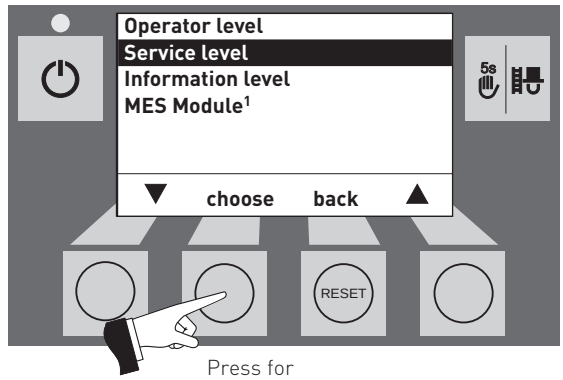


Fig. 55 Press for 5 seconds

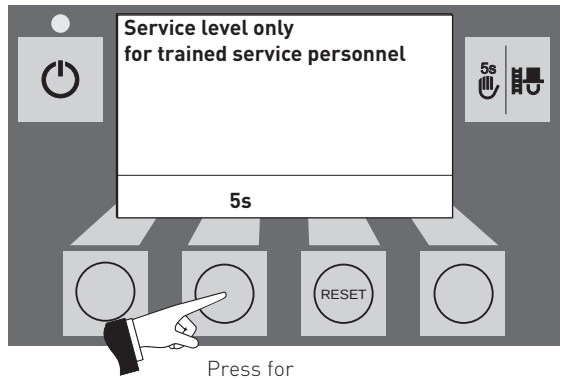


Fig. 56 Press for 5 seconds

1 only displayed when an MES^{PLUS} control is present and this has been adjusted by a trained service technician in the basic settings.

Select the required item, „Parameters“, „Start-up“, „Actuator test“ or „Settings“ and confirm by pressing the **choose** button – Fig. 57.

For further settings, see sections 4.5.1 – 4.5.4.

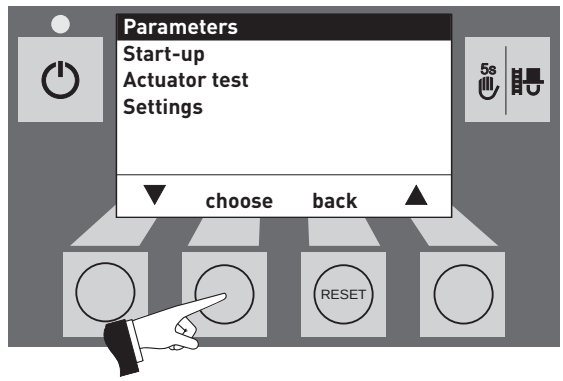


Fig. 57

The menu item or sub-menu item is exited by pressing the **back** button or after a delay of 10 minutes – Fig. 58.

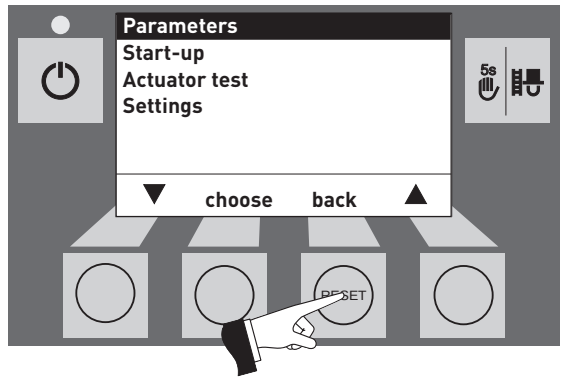


Fig. 58

4.5.1 Parameters

The following parameters can be selected with the arrow buttons, then confirmed using the choose button.

- Number of burner starts
- Fuel quantity auger conveyor
- Delivery time ignition phase
- Hysteresis Burner ON
- Maximum value of set temperature
- Set temperature ext. heating requirement
- Type of pellet feed system
- Operating time of suction turbine
- Profile ash removal
- Correction of cleaning interval
- Flue gas thermostat or air intake flap
- Limits for blower speed
- Minimum operating time with buffer

Number of burner starts

The number of burner starts of the FireWIN is displayed.

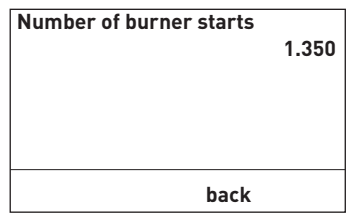


Fig. 59

Fuel quantity auger conveyor

The calculated fuel quantity (actual value) and the range is displayed in kg/h, and can be adjusted

	FireWIN	FW 90	FW 120
Actual value	Factory setting: Setting range:	6,0 kg/h ±2 kg of range	6,0 kg/h ±2 kg of range
Range	Factory setting: Setting range:	6,0 kg/h 6,0 – 8,0 kg/h	6,0 kg/h 6,0 – 8,0 kg/h
Correction	Factory setting: Setting range:	0 ±5	0 ±5

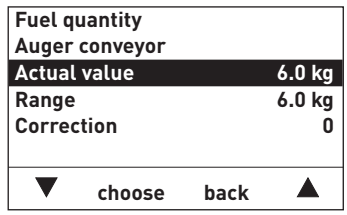


Fig. 60

Delivery time ignition phase

Fuel quantity in the ignition phase

FireWIN	FW 90	FW 120
Factory setting:	120 sek.	100 sek.
Setting range:	100 – 150 sek.	80 – 130 sek.

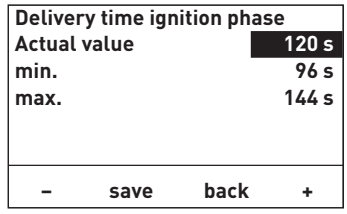


Fig. 61

Hysteresis Burner ON

Switching hysteresis for burner control

Factory setting: 5 K
Setting range: 0 – 20 K

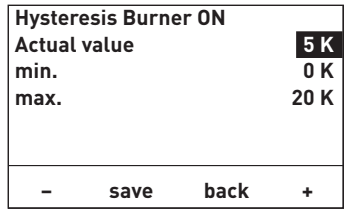


Fig. 62

Maximum value of set temperature

This is the maximum setpoint achievable in normal heating operation.

Factory setting: 75 °C
Setting range: 60 – 75 °C

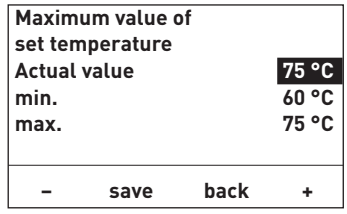


Fig. 63

Set temperature ext. heating requirement

This is the set temperature for external heating requirement.

Factory setting: 70 °C
Setting range: 35 – 75 °C

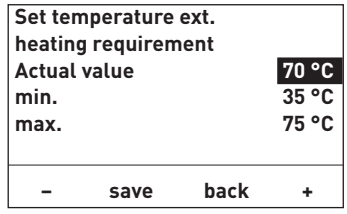


Fig. 64

Type of pellet feed system

Setting for whether operation is without feed system, with 2 or 8 probes or with mixer (buried tank).

Factory setting: without feed system

The following settings are available.
For changeover unit with 3 probes: Suction turbine with 2 probe
Suction turbine with 3 probe
For changeover unit with 8 probes: Suction turbine with 4 probe
Suction turbine with 6 probe
Suction turbine with 8 probe
For buried tank with mixer
and for **solo probe**: Suction turbine with mixer

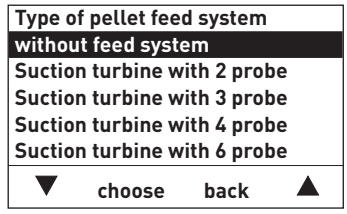


Fig. 65

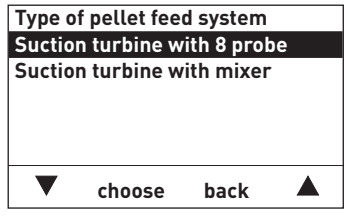


Fig. 66

Operating time of suction turbine

Factory setting: 80 sec.
Einstellbereich: 50 – 120 sec.

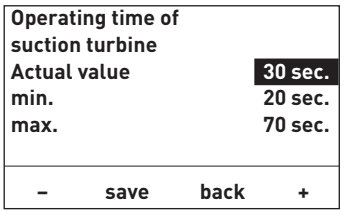


Fig. 67

Profile ash removal

This adjuster can be used to adjust the removal of ash from the burner pot for different stages of pellet quality.

Factory setting: Stage 1

Stage 0	to	Stage 3
very low proportion of ash		very high proportion of ash (possibly formation of slag)
no ash removal in modulation mode		frequent ash removal in modulation mode

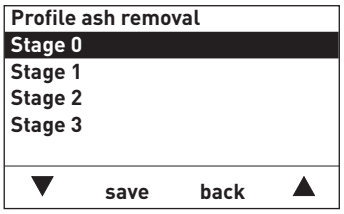


Fig. 68

Information!

Restore factory setting for next delivery of pellets.

Correction of cleaning interval

The cleaning interval is basically dependent on the proportion of ash in the pellets and the profile ash removal. This adjuster can be used to extend or shorten the cleaning interval by +/-50 %.
The standard setting is a cleaning interval determined by testing.

Factory setting: 0 %
Setting range: ±50 %

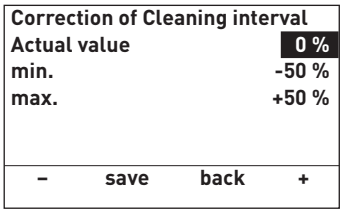


Fig. 69

Attention!

If too long a cleaning interval is selected, the ash container may overfill.

Flue gas thermostat or Air intake flap

This adjuster can be used to change the flue gas thermostat function (factory setting) to air intake flap.

Factory setting: Flue gas thermostat

With air intake flap setting (Fig. 71):

Factory setting: Operating time 300 sec.
Setting range: 30 – 600 sec.

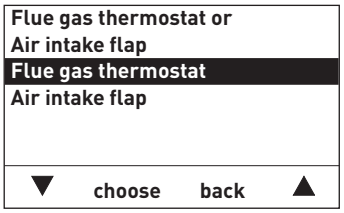


Fig. 70

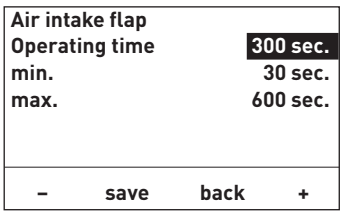


Fig. 71

Information!

The set operating time should be twice as long as the actual operating time of the air intake flap.

Limits for blower speed

		FW 90		FW 120	
		Minimum	Maximum	Minimum	Maximum
Factory setting:	rpm	1250	2050	1250	2050
Setting range:	rpm	1150–1450	1950–2250	1150–1450	1950–2250
Step width:	rpm	50	50	50	50

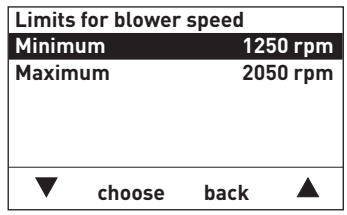


Fig. 72

Minimum operating time with buffer

This function is not yet available.

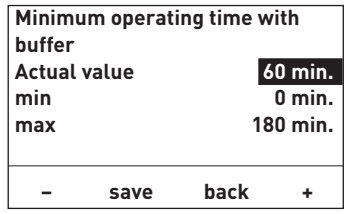


Fig. 73

4.5.2 Start-up

The auger conveyor and the feed can be selected on the Start-up level with the **arrow** buttons, then confirmed or selected using the **choose** button. A self-test is started at the end of the start-up.

Auger conveyor

The auger conveyor can be switched on for 6 minutes.

Feed

Depending on the set feed system, the feed and each probe incl. purging can be started up.

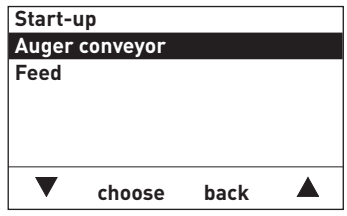


Fig. 74

4.5.3 Actuator test

The following actuators can be selected with the **arrow** buttons, then confirmed and started using the **choose** button. The actuators are switched off again after 1 minute. A self-test is started at the end of an actuator test.

- Induced draught fan
- Auger conveyor
- Ash removal
- Ignition element
- Ash compression
- Suction turbine
- Probe switching
- Boiler pump

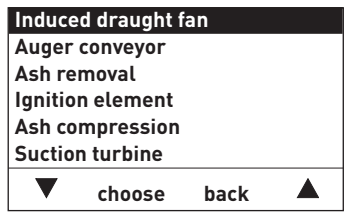


Fig. 75

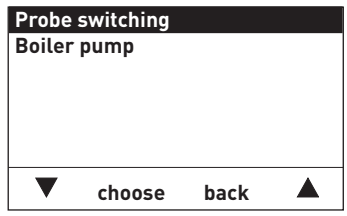


Fig. 76

4.5.4 Settings

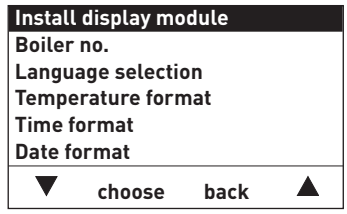


Fig. 77

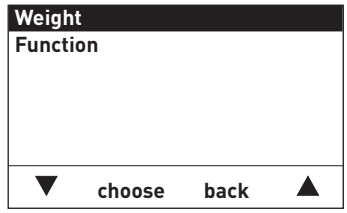


Fig. 78

This sub-menu contains the following settings:

- Install display module
- Boiler no.
- Language selection
- Temperature format
- Time format
- Date format
- Weight
- Function

Install display module

This is not required for the FireWIN.

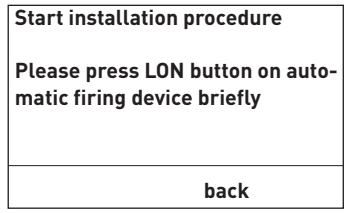


Fig. 79

Boiler no

If a individual boiler is not required, a number must be assigned to each heat generator (boiler) in a cascade system.
Factory setting: 0
Selection: 0 to 4

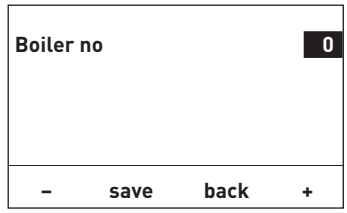


Fig. 80

Language selection

The InfoWIN^{PLUS} can show the display texts in various languages. The language required can be selected in this sub-menu.

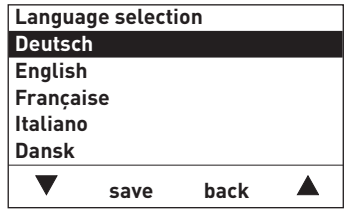


Fig. 81

Temperature format

All temperatures are displayed in the chosen format (e.g., 30.6 °C or 87.0 °F).

Factory setting: °C
Selection: °C and °F

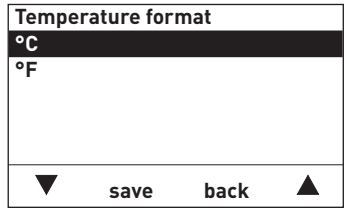


Fig. 82

Time format

The time is displayed in the chosen format (e.g., 14:12 or 02:12 PM).

Factory setting: 24 h
Selection: 24 h or 12 h

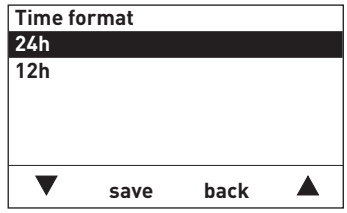


Fig. 83

Date format

The date is displayed in the chosen format (e.g., Wed 17.02.2010 or Wed 02/17/2010).

Factory setting: DD.MM.YYYY
Selection: DD.MM.YYYY
MM/DD/YYYY

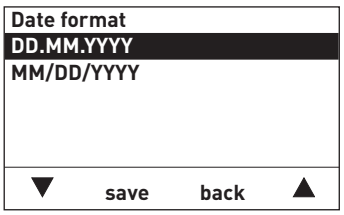


Fig. 84

Weight

The weight is displayed in the chosen format (e.g., 6.5 kg or 14.3 lbs).

Factory setting: t, kg
Selection: t, kg or tn. sh., lbs

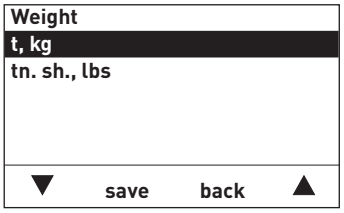


Fig. 85

Function

With „Function“ you can change the name (e.g., FireWIN) of the boiler.

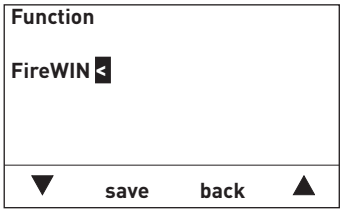


Fig. 86

4.5.5 Installation of MES^{PLUS} modules

Display if an MES^{PLUS} module is installed (connected) or uninstalled (disconnected).

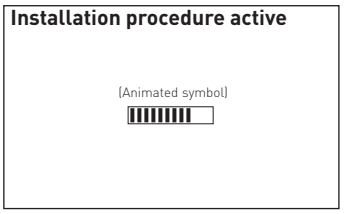


Fig. 87

4.6 InfoWIN^{PLUS} basic settings

The basic settings are used to

- set whether the InfoWIN^{PLUS} controls a wood or pellet boiler or whether it is solely used as master operation;
- switch the master operation functions on and off;
- activate/deactivate remote switching by text message.

The basic settings are undertaken in the factory before delivery as per the order.

Information!

Only trained service personnel may perform modifications in the basic settings.

The display switches to the basic settings when „Version ...“ (Fig. 89) is displayed and the button (shown in Fig. 89) is pressed for 5 seconds.

„Version ...“ is displayed,

- if the „RESET“ button is pressed for 5 seconds on a standard display – Fig. 88;
- if the InfoWIN^{PLUS} was de-energised and then switched on.

The following settings are available in the basic settings:

- Language selection
- Boiler
- MB
- SMS
- ELG
- Ethernet
- Update Software
- Update Firmware
- Display contrast

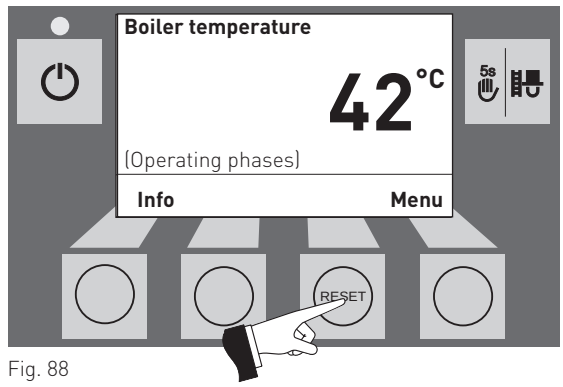


Fig. 88

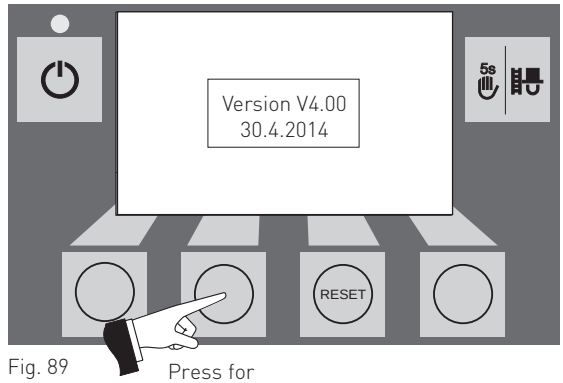


Fig. 89

Press for 5 seconds

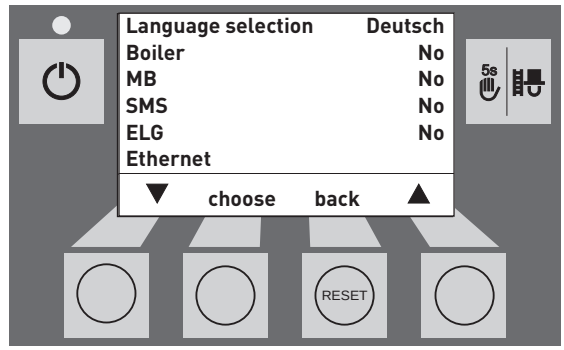


Fig. 90

Language selection

The InfoWIN^{PLUS} can show the display texts in various languages. The language required can be selected in this sub-menu.

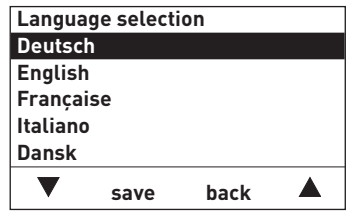


Fig. 92

Boiler

Setting to determine what kind of boiler the InfoWIN^{PLUS} controls, e.g., wood or pellet boiler or whether it is solely used as master operation.

Factory setting: is set in the factory before delivery as per the order.

Selection:	Pellets:	BioWIN 2, BioWIN XL, FireWIN, VarioWIN usw.
	Wood:	LogWIN, SilvaWIN usw.
	Heating oil:	JetWIN, EcoWIN
	Combi boiler:	DuoWIN
	No	No boiler, e.g., for MultiWIN, simply master operation for remote switching

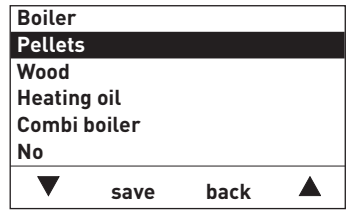


Fig. 91

MB (Master operation)

Setting to define whether MES^{PLUS} system control is present.

Factory setting: is set in the factory before delivery as per the order.

Selection: Yes: with MES^{PLUS} system control
No: no MES^{PLUS} system control

Fig. 93

SMS

Setting to define whether remote switching by text message is possible.

Factory setting: is set in the factory before delivery as per the order.

Selection: Yes: with remote switching
No: no remote switching

Fig. 94

ELG

These functions are not yet available.

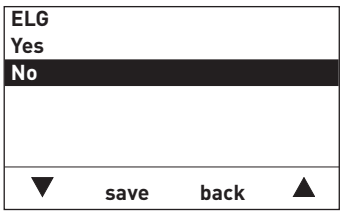


Fig. 95

Ethernet

Setting the IP address, subnet mask and gateway address of the Ethernet interface for the InfoWIN^{PLUS}.

Factory setting:		
	IP-Adresse	192.168.1.2
	Subnet	255.255.255.0
	Gateway	255.255.255.255

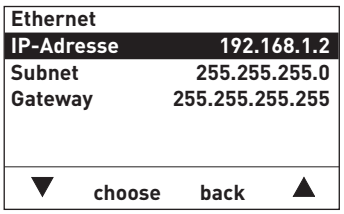


Fig. 96

Update Software

The update procedure to update the InfoWIN^{PLUS} software via the Ethernet interface is being started.

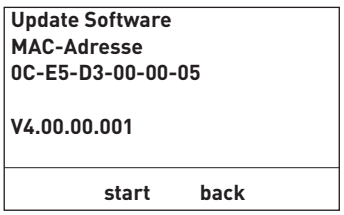


Fig. 97

Update Firmware

The update procedure to update the LON Controller firmware is being started. The LON Controller firmware is included in the InfoWIN^{PLUS} software, therefore no external update tool is required.

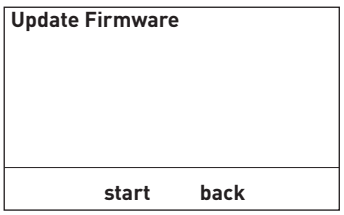


Fig. 98

Display contrast

Adjusters to set the contrast of the display.

Factory setting:	5
Setting range:	0 – 10

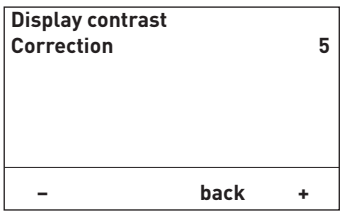
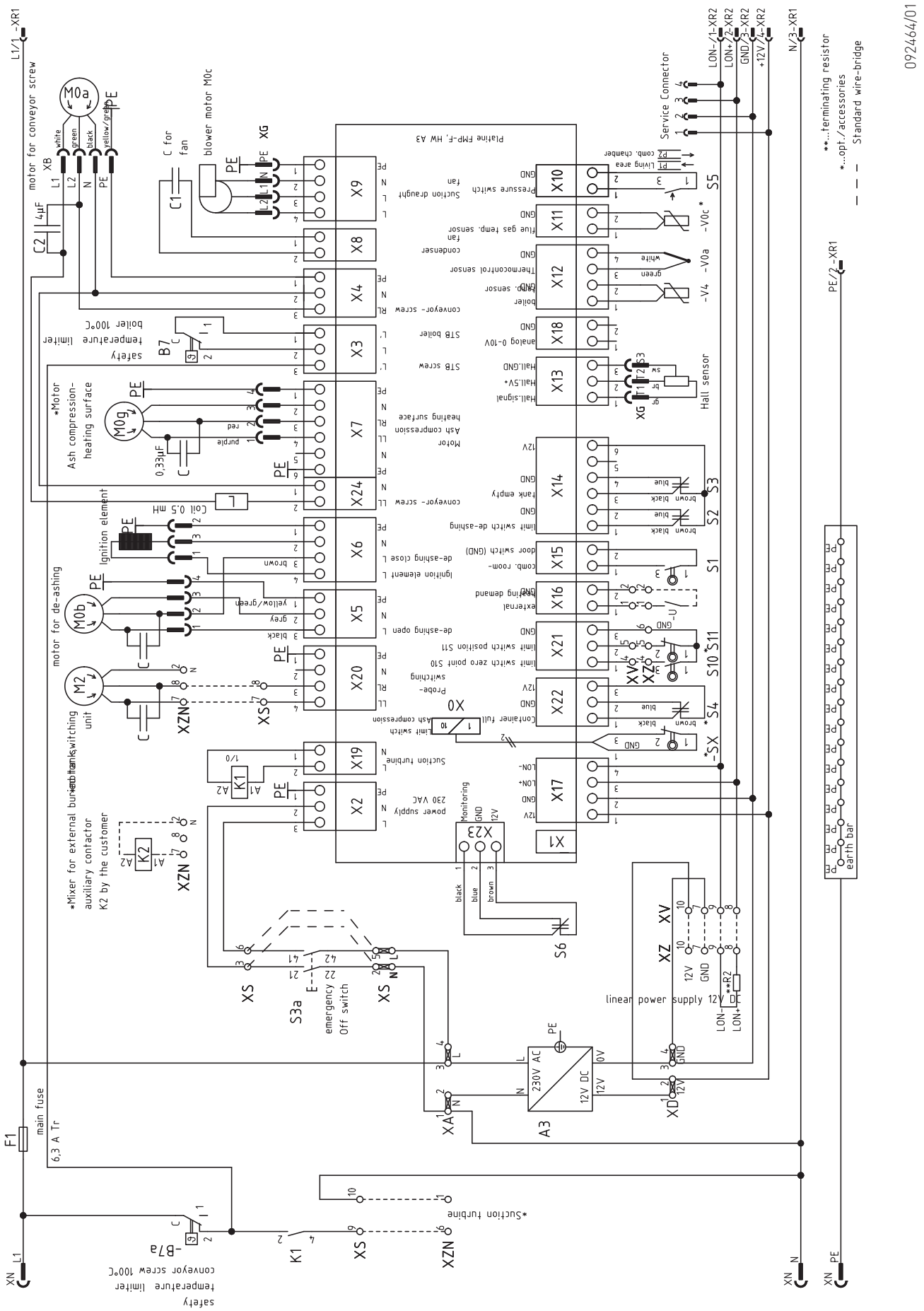
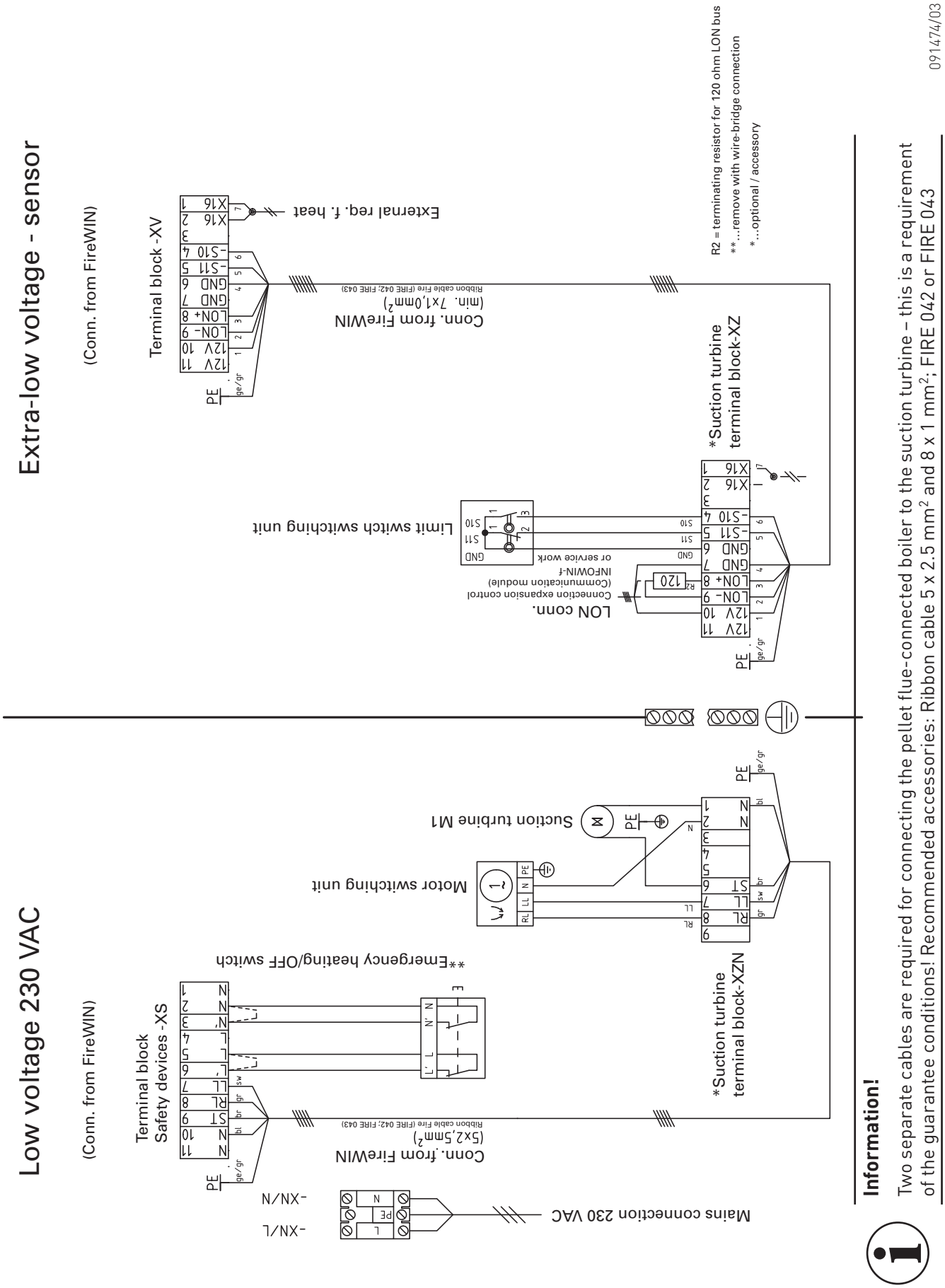


Fig. 99

4.7 FireWIN basic circuitry

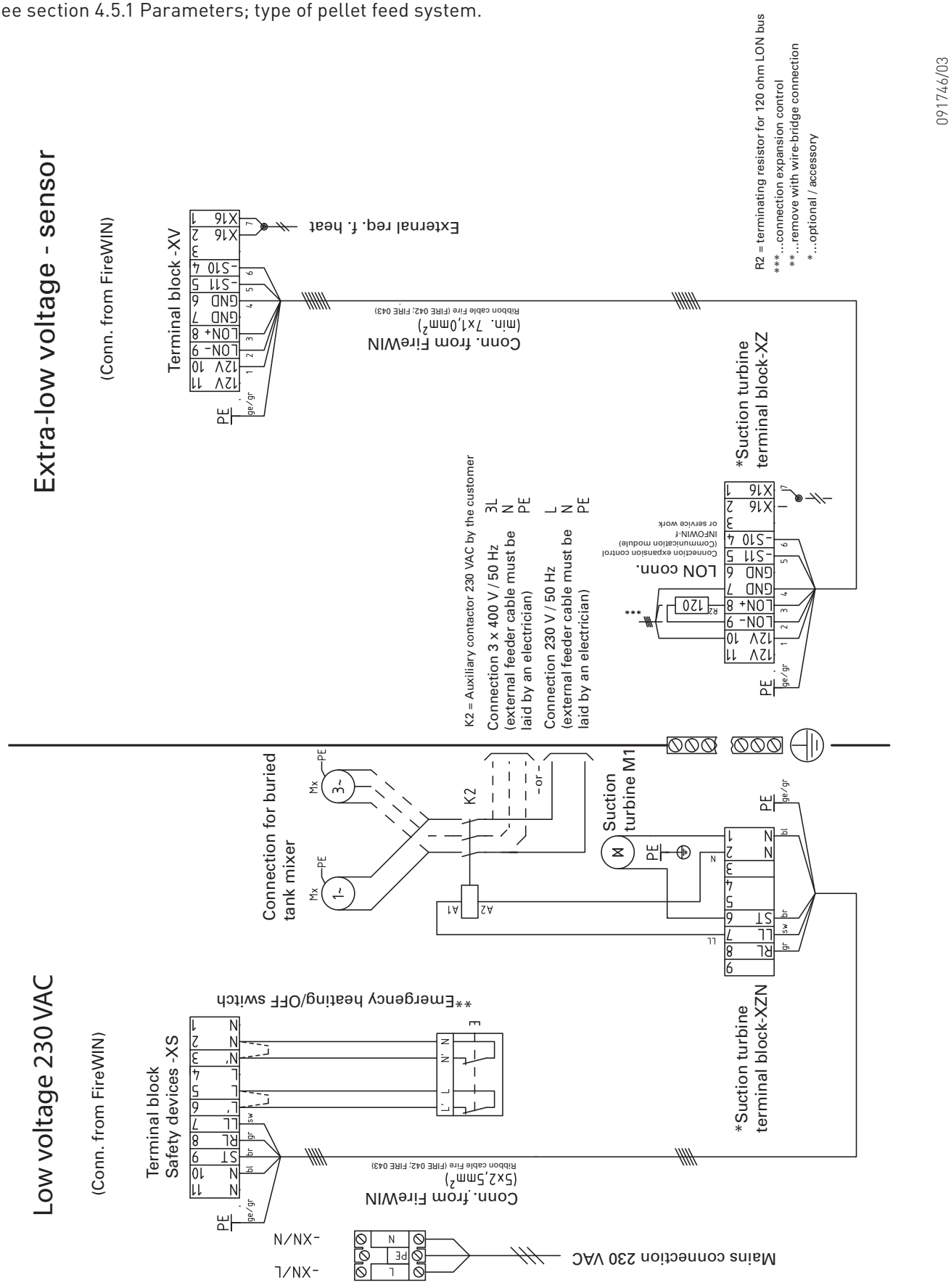


4.8 FireWIN pellet feed connecting diagram



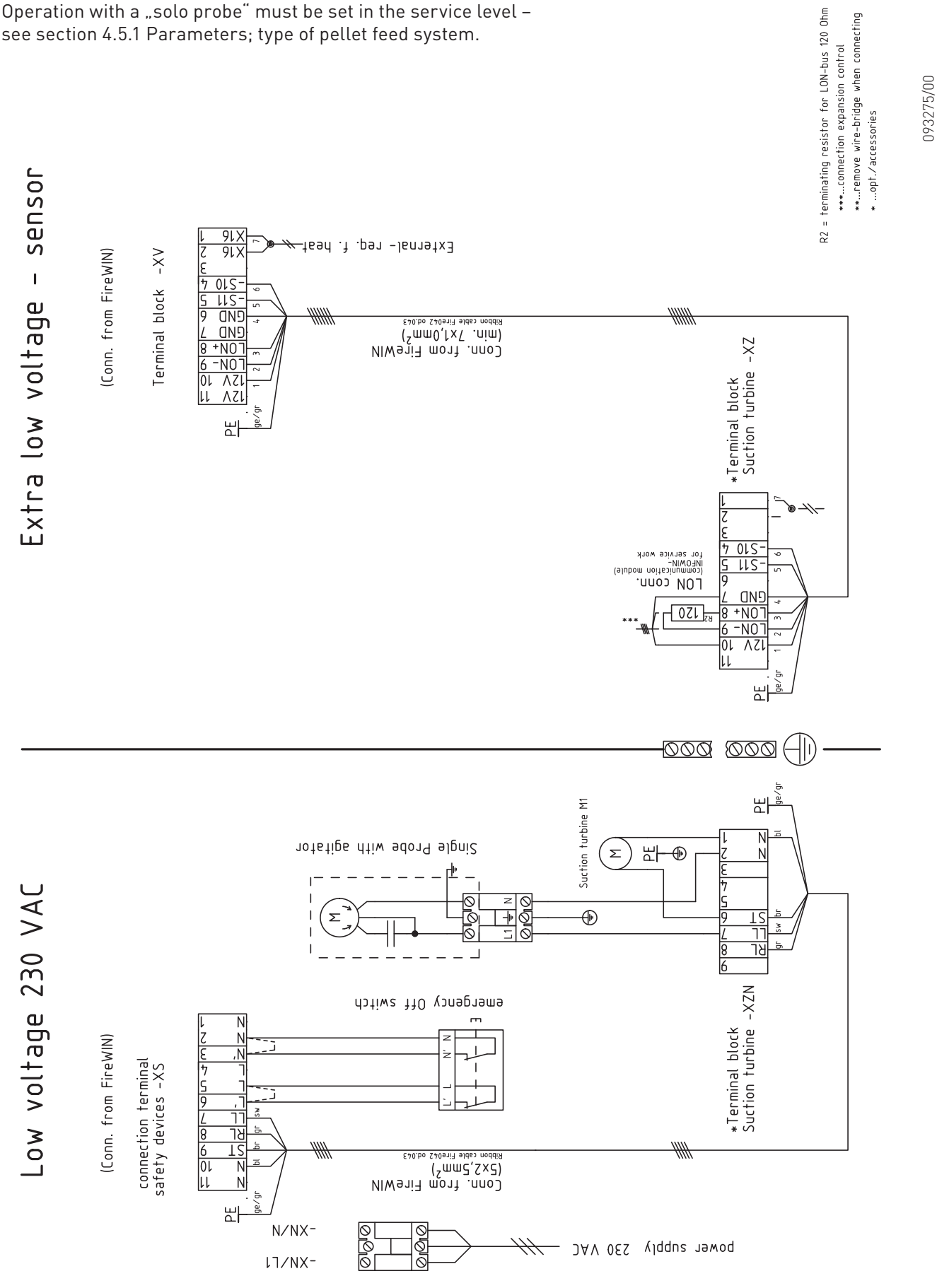
4.9 FireWIN pellet feed connecting diagram with mixer for buried tank

Operation with a mixer must be set on the service level – see section 4.5.1 Parameters; type of pellet feed system.



4.10 Connection diagram for FireWIN pellet feed with solo probe

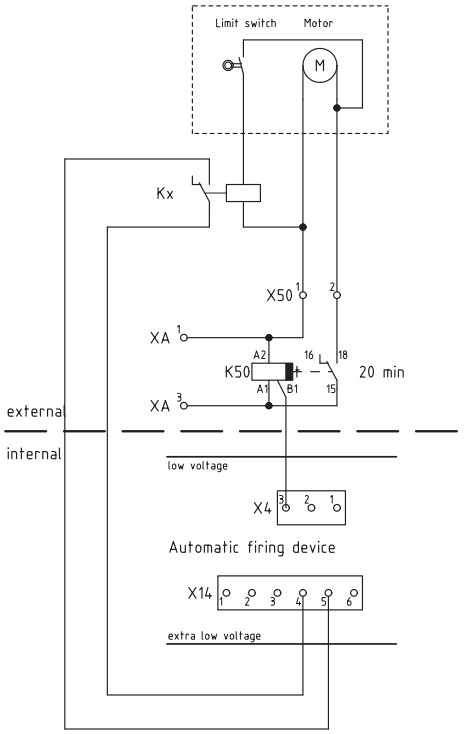
Operation with a „solo probe“ must be set in the service level – see section 4.5.1 Parameters; type of pellet feed system.



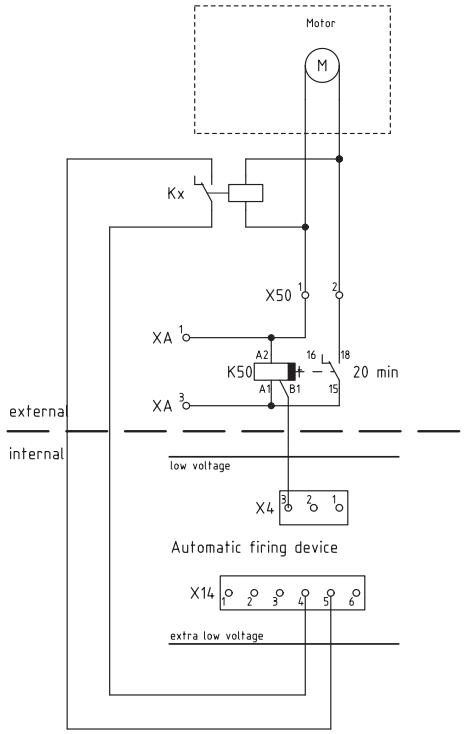
4.11 Connection diagram for air intake/exhaust flap

The air intake/exhaust flap is directly connected to the main PCB (see basic circuit diagram 4.7) at plugs X4 (motor) and X14 (limit switch). See section 4.5.1 Parameters; Flue gas thermostat or air intake flap.

Air intake/exhaust flap with limit switch



Air intake/exhaust flap without limit switch



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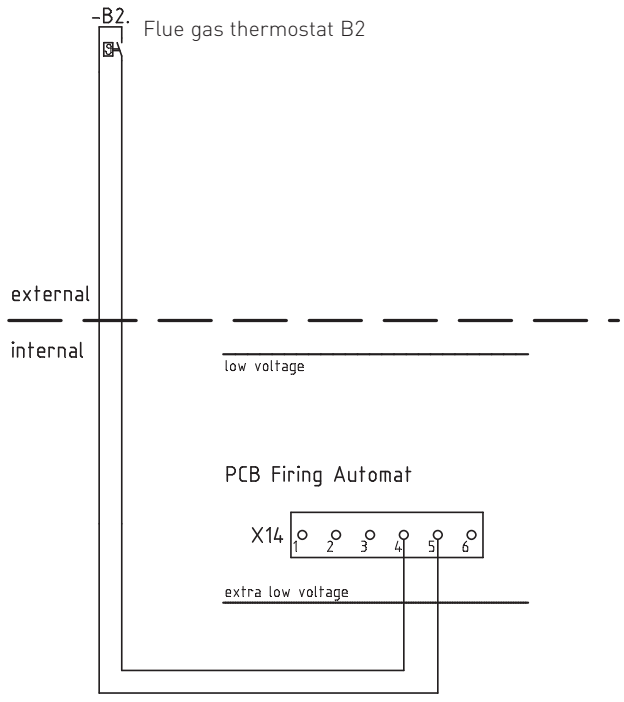
4.12 Connection diagram for flue gas thermostat

The flue gas thermostat is directly connected to the main PCB (see basic circuit diagram 4.7) at plugs X4 (motor) and X14 (limit switch). See section 4.5.1 Parameters; Flue gas thermostat or air intake flap.



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WARRANTY CONDITIONS

The warranty conditions require that the boiler and related accessories be properly installed and started up by Windhager Customer Service or the customer service partner; otherwise the manufacturer's warranty will not be honoured.
Malfunctions resulting from improper operation or adjustment as well as use of poor-quality fuel types or fuel types that are not recommended are not covered by the warranty. Further, the warranty shall be void if equipment other than that provided by Windhager is installed. The special warranty conditions for your system are available in the "Warranty conditions" sheet supplied with your boiler.

Start-up and regular servicing following the terms of the "Warranty conditions" will assure safe, environmentally friendly and economical operation of your system. We recommend that you obtain a maintenance agreement.

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IMPRESSUM

Media owner, issuer and publisher: Windhager Zentralheizung GmbH, Anton-Windhager-Straße 20, 5201 Seekirchen am Wallersee, Austria, T +43 6212 2341 0, F +43 6212 4228, info@at.windhager.com, Images: Windhager; subject to amendments, printing and layout errors. Translatet from 023744/09 – AWP-vor

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